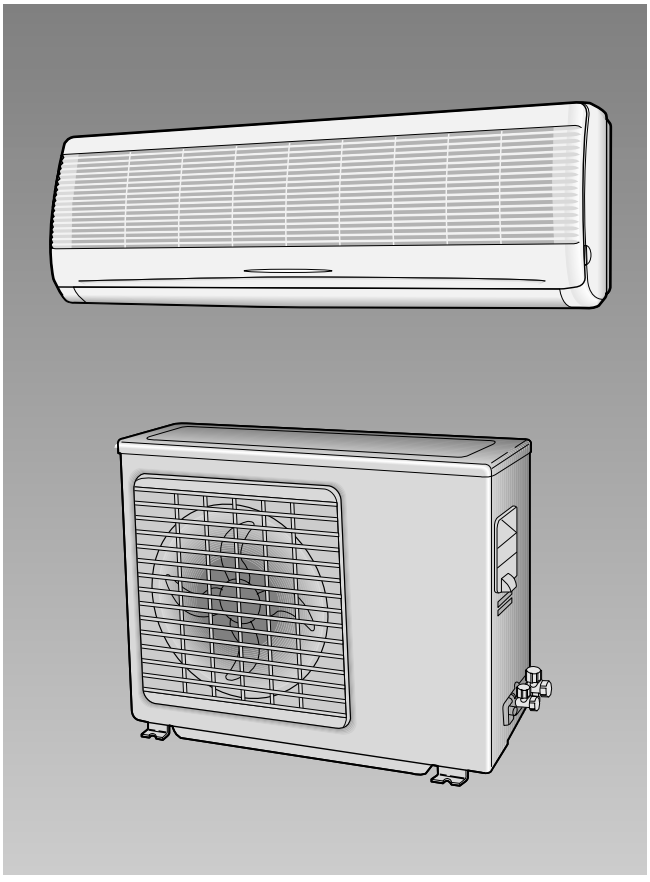
SAMSUNG

V Series

(WALL MOUNTED TYPE)

TECHNICAL *Manual*

AIR CONDITIONER



CONTENTS

1. FEATURES AND OPERATION

2. SPECIFICATIONS

3. DIAGRAMS

4. DISASSEMBLE & REASSEMBLE

1

FEATURES AND OPERATION

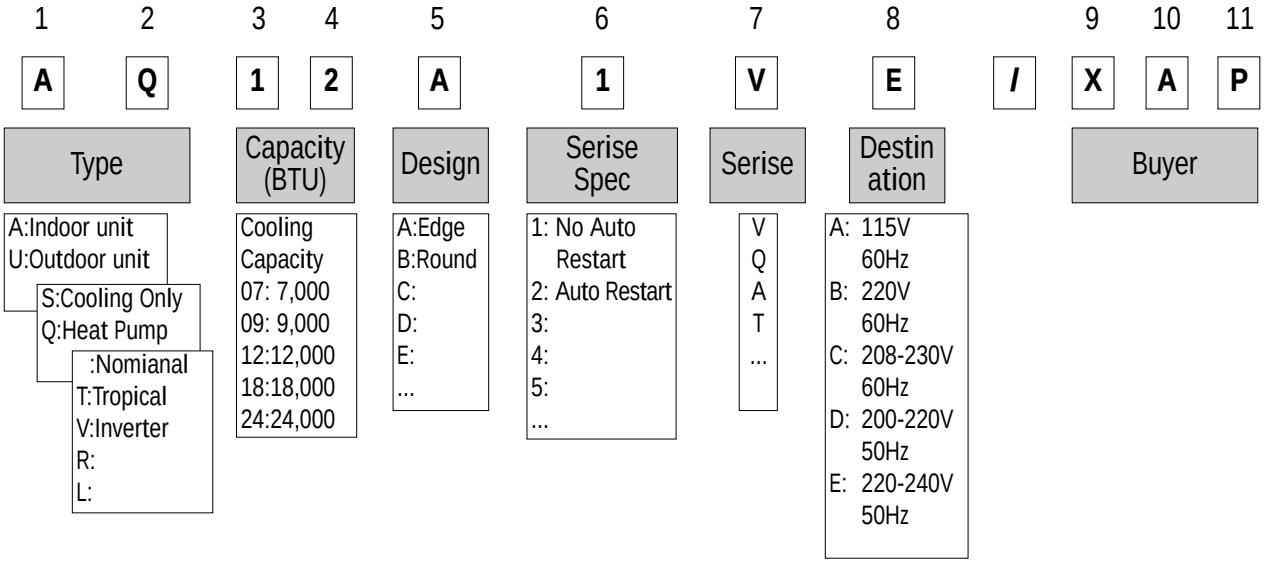
1. FEATURES AND OPERATION

1-1 Model Identification 1-1
1-2 Model Line-up 1-2
1-3 Features of Each Model 1-3
1-4 Outline and dimensions
1-4-1 Indoor Unit 1-4
1-4-2 Outdoor Unit 1-4
1-5 Installation
1-5-1 Installation diagram of indoor unit and outdoor unit ... 1-5
1-5-2 Wiring Connection 1-6
1-5-3 Drain Line 1-7
1-5-4 Grounding 1-7
1-6 View of the unit
1-6-1 Indoor unit 1-8
1-6-2 Outdoor unit 1-8
1-7 Remote control Buttons and Display 1-9
1-8 Features And Operation
1-8-1 Name & Function of Key in remote controller ... 1-10
1-8-1(a) Cooling Only 1-11
1-8-1(b) Heat Pump 1-13
1-8-2 Getting Started 1-15
1-8-3 Inserting the Remote Control Batteries 1-15
1-8-4 Setting the Time 1-16
1-8-5 Selecting the Automatic Operating Mode 1-17
1-8-6 Cooling Your Room 1-18
1-8-7 Heating Your Room 1-19
1-8-8 Changing the Room Temperature Quickly 1-20
1-8-9 Removing Excess Humidity 1-21
1-8-10 Airing Your Room 1-22
1-8-11 Adjusting the Airflow Direction
1-8-11(a) Adjusting the Air Flow Direction Vertically 1-23
1-8-11(b) Adjusting the Air Flow Direction Horizontally .. 1-23
1-8-12 Switching the Unit On and Off Automatically (On/Off Timer) 1-24
1-8-13 Setting the Sleep Timer 1-25
1-8-14 Setting the Quick Timer 1-25
1-8-15 Cancelling the On/Off Timer 1-26
1-8-16 Cancelling the Sleep Timer 1-26
1-8-17 Cancelling the Quick Timer 1-26
1-9 Operating Recommendations 1-27
1-10 Temperature and Humidity Ranges 1-28
1-11 Cleaning Your Air Conditioner 1-29

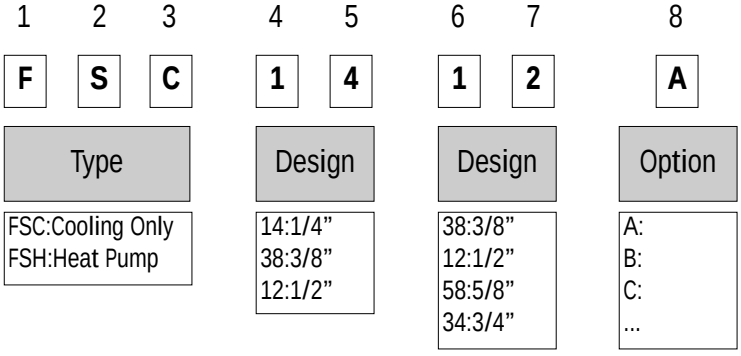
1. FEATURES AND OPERATION

1-1 Model Identification

■ Wall Mounted Type Air Conditioner



■ Piping(Parts Box)



1-2 Model Line-up

■ 1999R

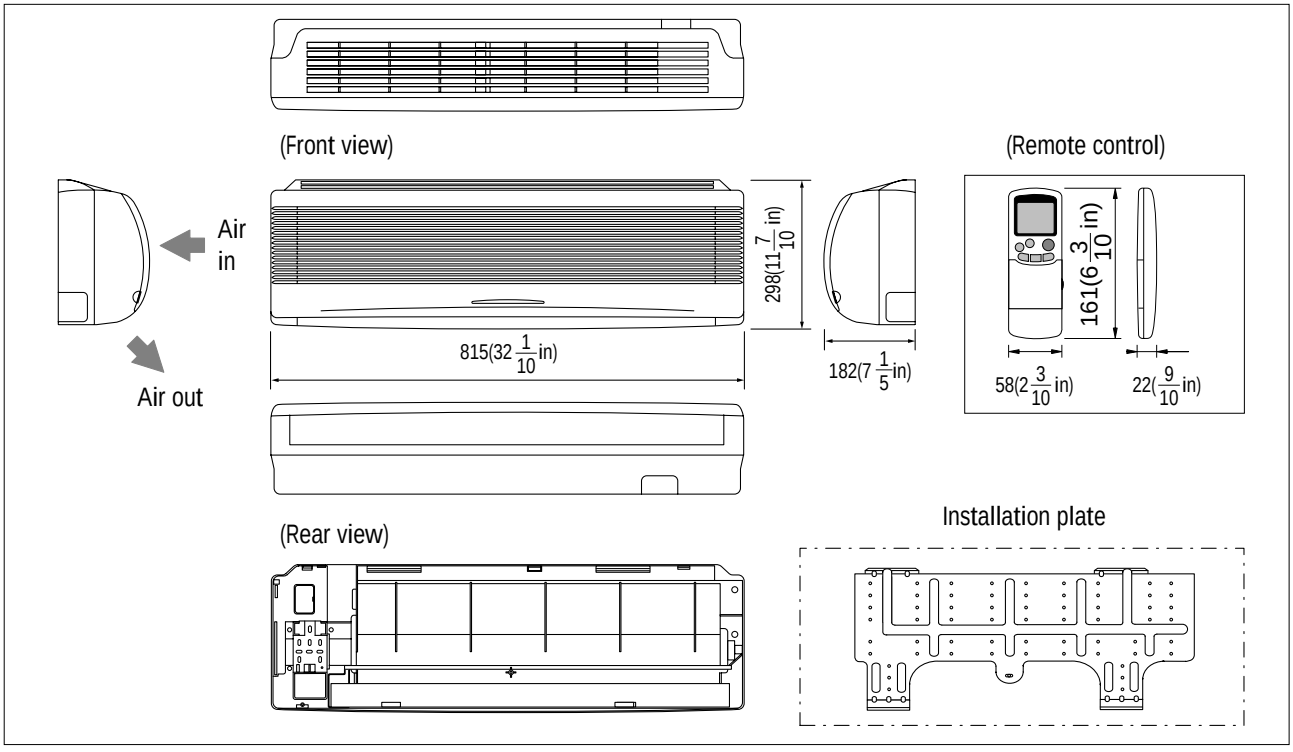
Type	Series	Capacity	Indoor Unit	Outdoor Unit	Piping Unit
Cooling Only	V	7,000BTU	AS07A2VA	US07A2VA	FSC1438A
		9,000BTU	AS09A2VA	US09A2VA	FSC1438A
		12,000BTU	AS12A2VC	US12A2VC	FSC1412A
Heat Pump	V	9,000BTU	AQ09A2VA	UQ09A2VA	FSH1438A
		12,000BTU	AQ12A2VC	UQ12A12VC	FSH1412A

1-3 Features of Each Model

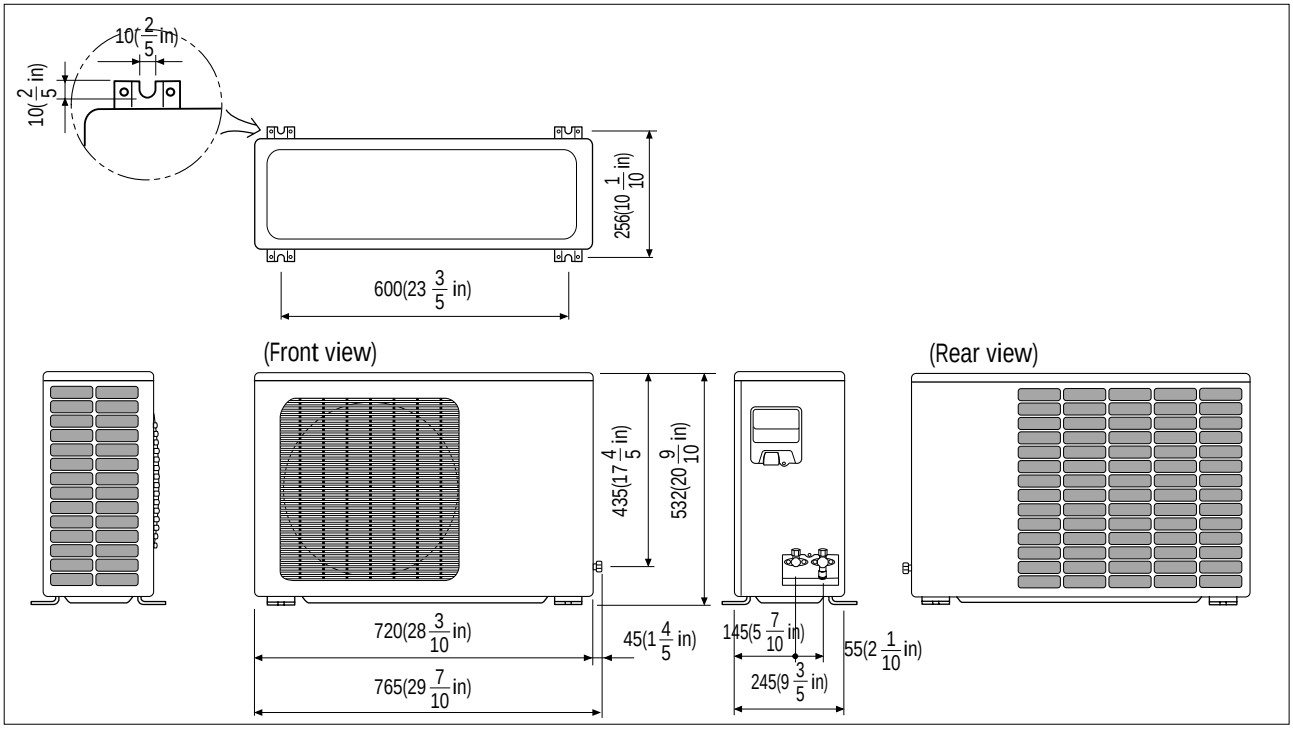
Item		Series V	
		Cooling	H-Pump
Wireless remote Control(Handy type)		○	○
Mode	Automatic	○	○
	Heating		○
	Cooling	○	○
	Dry	○	○
	Fan only	○	○
Timer	Q-Timer	○	○
	ON Timer	○	○
	OFF Timer	○	○
Clock		○	○
Fan Speed	Auto	○	○
	Turbo	○	○
	Mild	○	○
	Adjustment	○	○
Air flow	Up/Down	○	○
Temperature	Adjustment	○	○
Display	Mode	○	○
	Fan Speed	○	○
	Temperature	○	○
	Timer	○	○
	Battery	○	○

1-4 Outline and dimensions

1-4-1 Indoor Unit



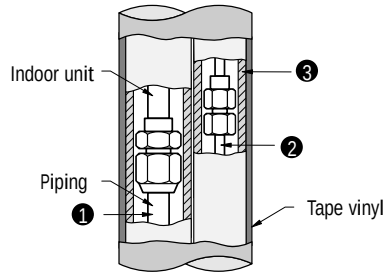
1-4-2 Outdoor Unit



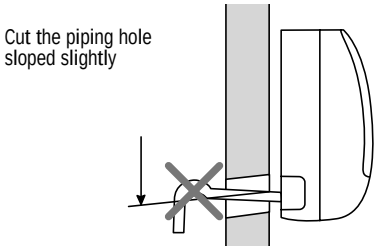
1-5 Installation

1-5-1 Installation diagram of indoor unit and outdoor unit

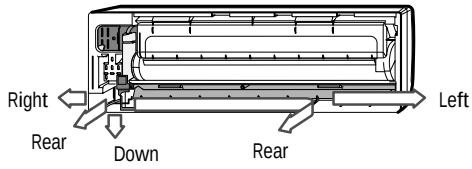
A Indoor unit gas leak test check point

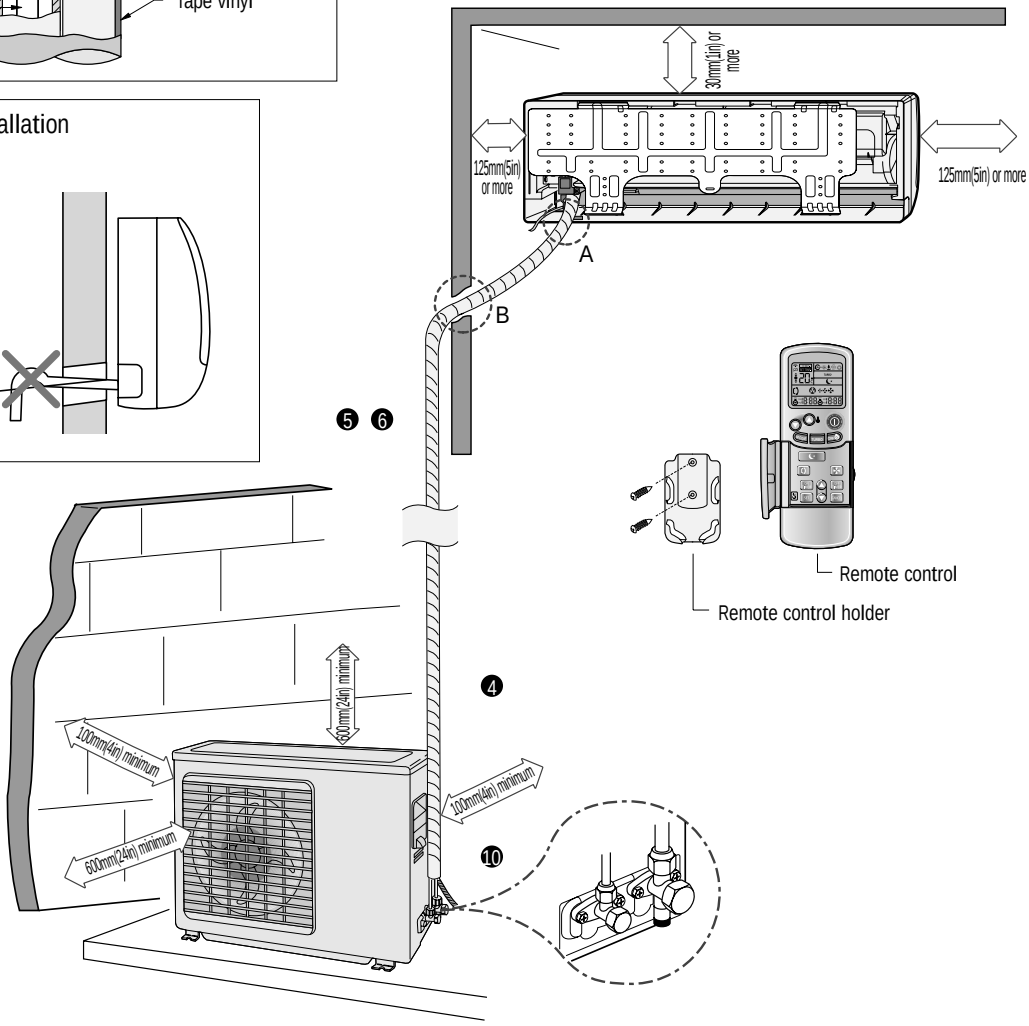


B Drain hose installation



Piping may be laid to the rear, left, right or down .

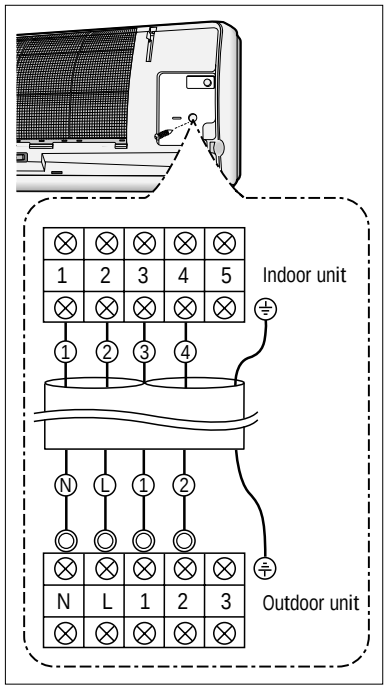




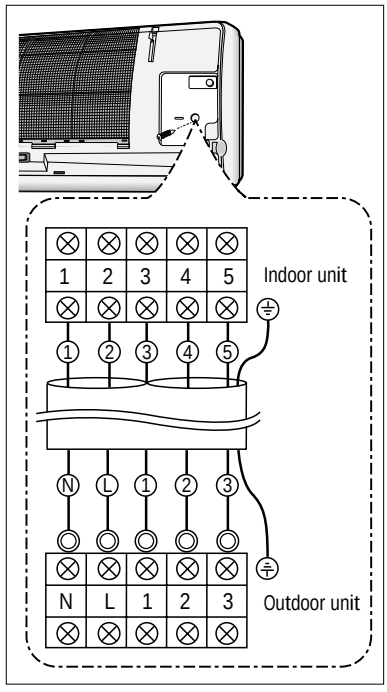
❶	Piping (Liquid) 1/4"		❻	Clamper tube	
❷	7K/9K BTU	Piping(Gas)3/8”	❼	Installation plate	
	12K BTU	Piping(Gas)1/2”			
❸	Installation tube		❽	Pipe-connection	
❹	Vinyl tape		❾	Screw	
❺	Putty		❿	Drain hose	

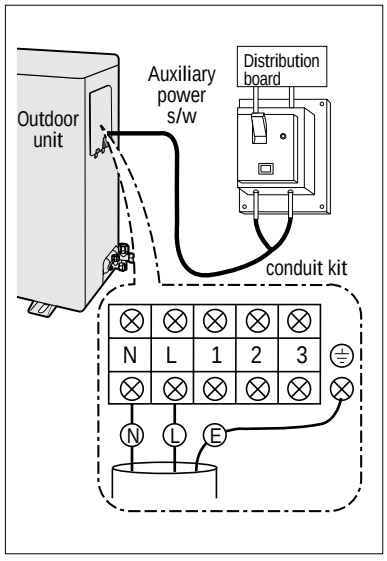
1-5-2 Wiring Connection

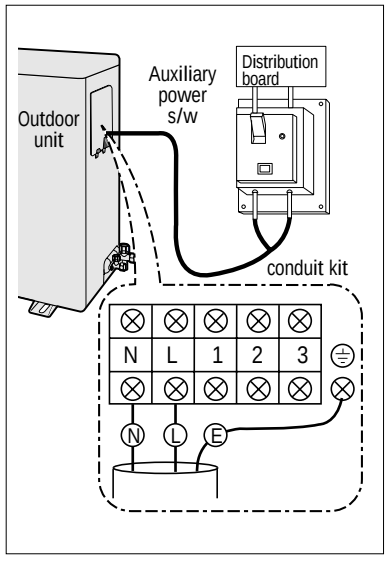
<Cooling Only>



<Heat Pump>



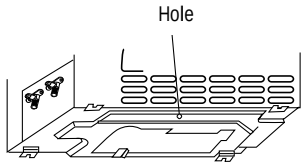


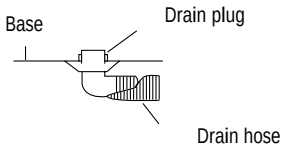


1-5-3 Drain Line

- In heating and deice operation, condensed water may be generated. Install drain line as following procedure.

1. Insert the drain plug into base hole.
2. And then connect drain hose to drin plug.

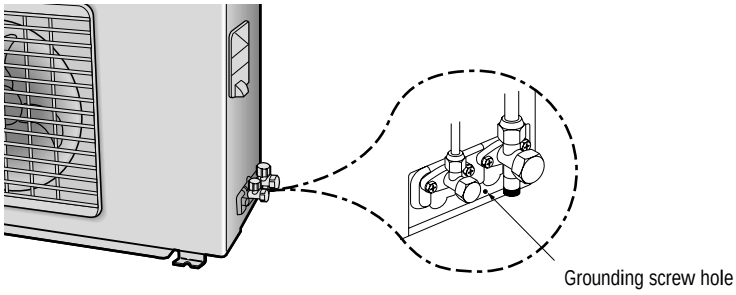




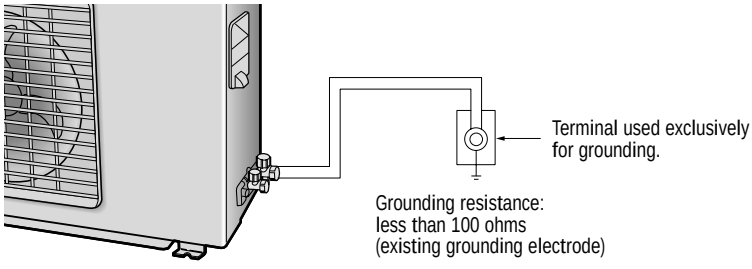
1-5-4 Grounding

(The parts for this work are optional)

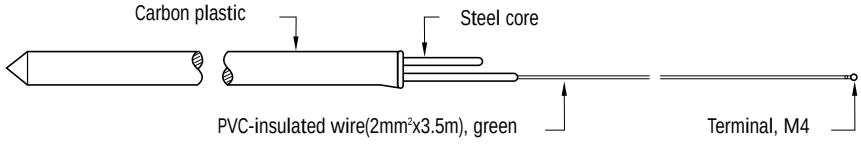
- The grounding screw hole is located in the position shown.
- A grounding terminal can be found on the outdoor unit as illustrated.



1. When an existing grounding terminal is available.
   (Grounding wire of ø1.6mm or larger<solid wire>or 2mm^2 or larger <standard wire>)

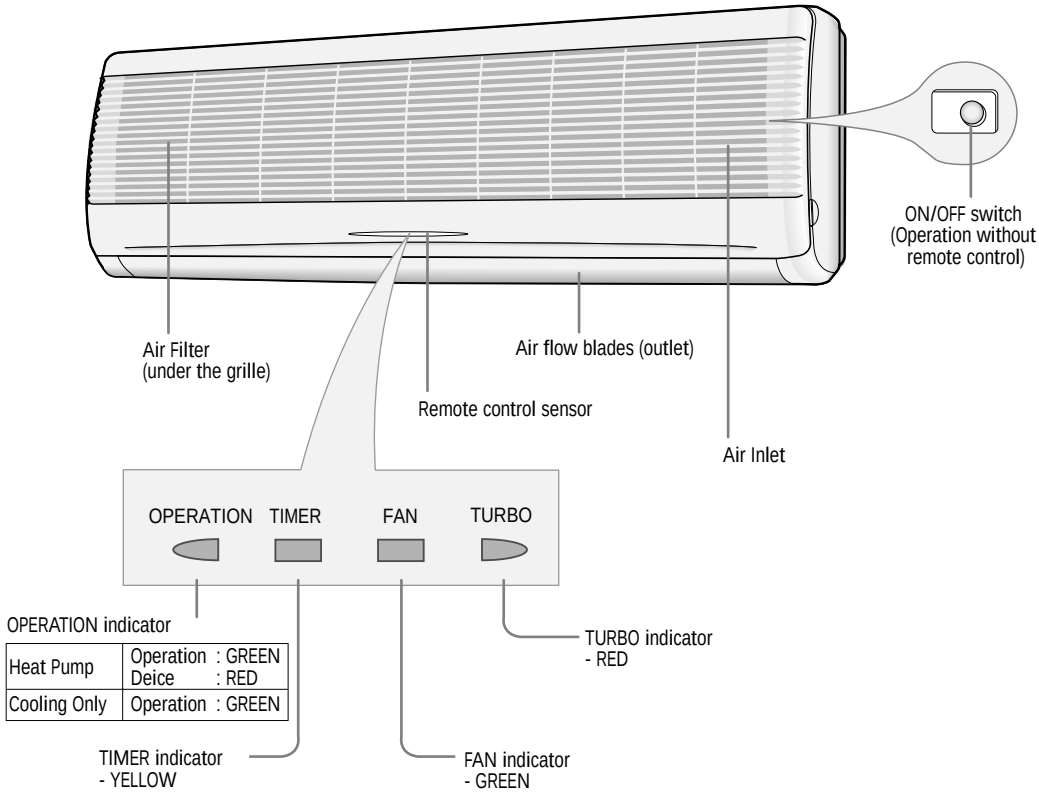


2. Use of a grounding electrode.
   - Specifications of grounding electrode.



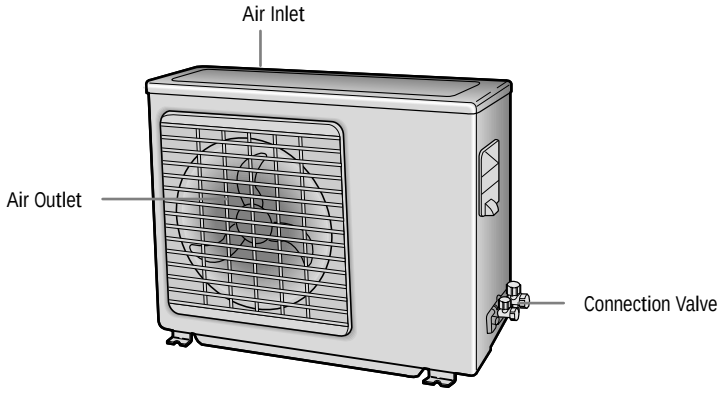
1-6 View of the unit

1-6-1 Indoor unit

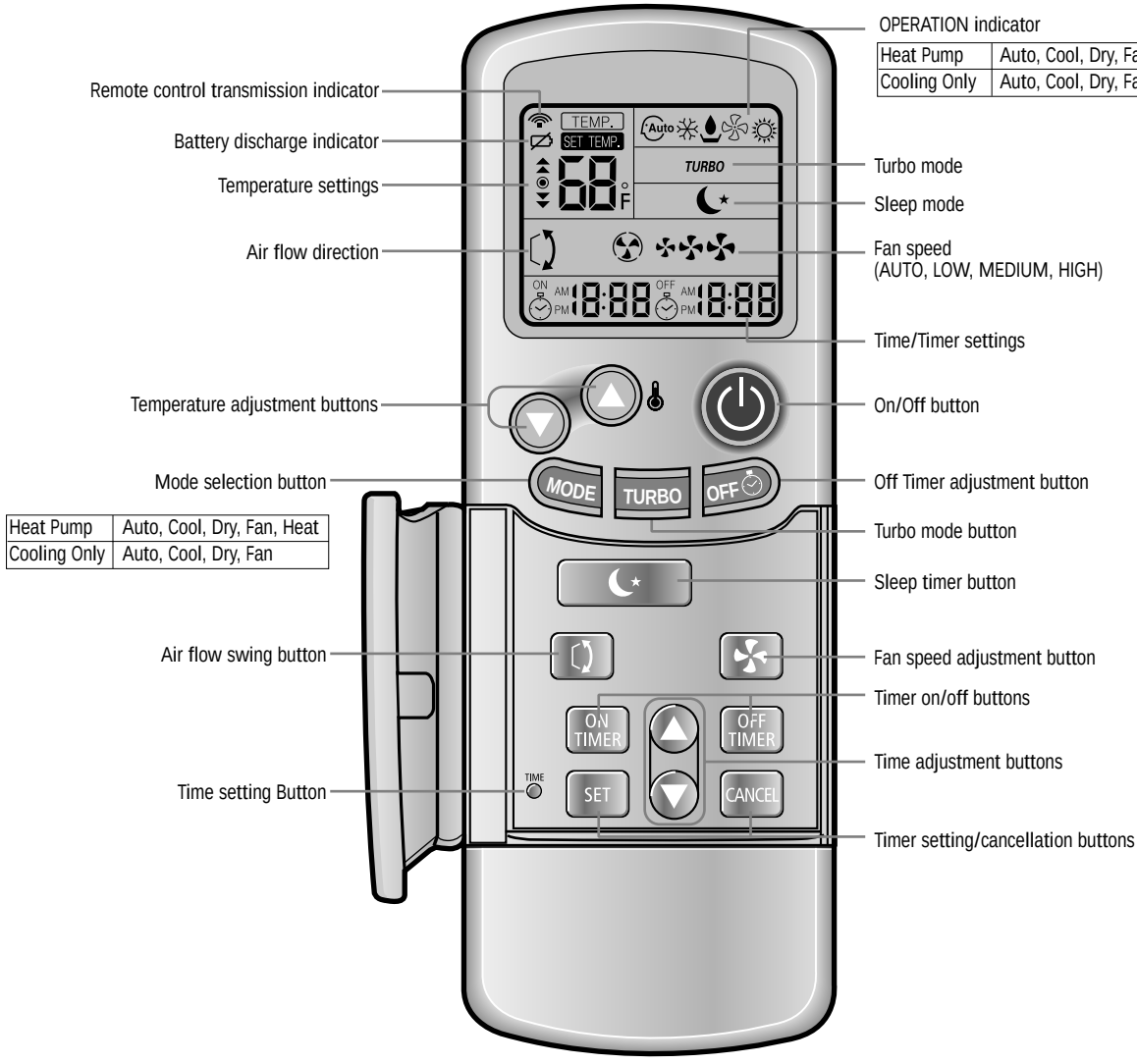


Heat Pump	Operation : GREEN Deice : RED
Cooling Only	Operation : GREEN

1-6-2 Outdoor unit



1-7 Remote control Buttons and Display



1-8 Features And Operation

1-8-1 Name & Function of Key in remote controller

NO		NAME OF KEY		FUNCTION OF KEY
1				On/Off Button. Use this button to start and stop air conditioner.
2			▲ (UP)	Temp. up button. If the ▲ button is pressed once, the setting temperature is increased by 1°C(2°F)
			▼ (DOWN)	Temp. up button. If the ▼ button is pressed once, the setting temperature is decreased by 1°C(2°F)
3		MODE		Each time you press this button, MODE is changed in the following order. Auto : Auto Mode : Fan Only : Cool Mode : Heat Mode : Dry Mode <Cooling Only> <Heat Pump>
4		TURBO		Use this button to provide heavy duty cooling & Heating for 30 minutes.
5		OFF		Set up the reserve or cancel the timer off quickly
6				Use this button for sleep operation. (The SLEEP mode can be selected at COOL and HEAT mode.)
7				Adjusts air flow vertically, each time you press this button.
8				Each time you press this button, FAN SPEED is changed in the following order.
9	COVER	TIMER	ON TIMER	Set up the time that operation start.
10			OFF TIMER	Set up the time that operation stop.
11			SET	Use this button to reserve the timer on and timer off.
12			CANCEL	Use this button to cancel the timer on and timer off.
13			(UP)	If the (UP) button is pressed once, the time increase by one minute during the time set mode, and ten minutes during the timer set mode.
14			(DOWN)	If the (DOWN) button is pressed once, the time decrease by one minute during the time set mode, and ten minutes during the timer set mode.
15			TIME	Without regard to ON/OFF condition in remote controller, use this button to set current time. Adjust the current time using (UP)(DOWN) button. (Data can be transmitted after setting up the time)

1-8-1(a) Cooling Only

1. AUTO MODE : In this mode, operation COOL mode is selected automatically by the room temperature of initial operation.

Operation Type	Room Temp	
Cool Operation	Tr≥ 24.5°C(78°F)+ΔT	Compressor ON
	Tr≤ 24°C(75°F)+ΔT	Compressor OFF

   ΔT= -2°C(-4°F), -1°C(-2°F), 0°C, +1°C(2°F), +2°C(4°F)
   ΔT is controlled by setting temperature up/down key of remote controller
   * FAN SPEED : AUTO

2. COOL MODE : The unit operates according to the difference between the setting and room temperature. (18°C(64°F)~30°C(86°F))

3. DRY MODE : Has 3 states, each determined by room temperature.
   The unit operates in DRY mode.
   *Compressor ON/OFF Time is controlled compulsorily(can not set up the fan speed, always breeze).
   *Protective function : Low temperature release. (Prevention against freeze)

4. TURBO MODE : This mode is available in AUTO, COOL, DRY, FAN MODE.
   When this button is pressed at first, the air conditioner is operated "powerful" state for 30 minutes regardless of the set temperature, room temperature.
   When this button is pressed again, or when the operating time is 30 minutes, turbo operation mode is canceled and returned to the previous mode.
   *But, if you press the TURBO button in DRY or FAN mode that is changed with AUTO mode automatically.

5. SLEEP MODE : Sleep mode is available only in COOL mode.
   The operation will stop after 6 hours.
   *In COOL mode : The setting temperature is automatically raised by 1°C(2°F) each 1hour
   When the temperature has been raised by total of 2°C(4°F), that temperature is maintained.

6. FAN SPEED : Manual (3 step), Auto (4 step)
   Fan speed automatically varies depending on both the difference between setting and the room temperature.

7. COMPULSORY OPERATION :
   For operating the air conditioner without the remote controller.
   *AUTO : The operating is the same function that AUTO MODE in the remote controller.

8. SWING : BLADE-H is rotated vertically by the stepping motor.
   *Memory louver : When ON/OFF button is pressed at stop state, the BLADE-H returns to its original location which is operating state before stop
   *Swing Set : Press the button under the remote control is displayed on LCD the , and the blades move up and down, about 43°. If the one more time press the button, blatles location is stop.

9. Quick OFF TIMER: OFF timer (quick timer) allows reservation or cancel the timer off quickly
   When OFF timer button is pressed at operating state, LCD displays the polling state sequentially.
   The LCD also displays the time remaining.

10. 24-Hour ON/OFF Real Setting Timer. : The air conditioner is turned ON at a specified time using ON TIMER.

    OFF TIMER : The air Conditioner is turned OFF at a specified time using OFF TIMER.
    *ON TIMER : Only timer LED lights on.
    *OFF TIMER : Both timer and operation LED lights on.
    *3 minutes delay timer.

11. SELF Diagnosis

LED DISPLAY				Check Point
operation	TIMER	FAN	Turbo	
◑	○	○	○	Interruption of electric power and Power on.
○	◑	○	○	Abnormal condition of the room sensor.
◑	◑	○	○	Abnormal condition of the indoor unit's heat exchanger sensor.
○	○	◑	○	Indoor unit fan motor lock.

◑ : LED blinking ○ : LED off

12. BUZZER SOUND : Whenever the ON/OFF button is pressed or whenever change occurs to the condition which is set up or select, the compulsory operation mode, buzzer is sounded "beep"

1-8-1(b) Heat Pump

1. AUTO MODE : In this mode, operation mode(COOL, HEAT, DRY) is selected automatically by the room temperature of initial operation.

Room Temp	Operation Type
Tr≥ 21°C(70°F)+ΔT	Cool Operation (Set Temp:AUTO SETTING)
21°C(70°F) +ΔT>Tr	Heat Operation (Set Temp : 22°C(72°F)+ΔT)

   ΔT= -2°C(-4°F), -1°C(-2°F), 0°C, +1°C(2°F), +2°C(4°F)
   ΔT is controlled by setting temperature up/down key of remote controller

2. COOL MODE : The unit operates according to the difference between the setting and room temperature. (18°C(65°F)~30°C(86°F))

3. HEAT MODE : The unit operates according to the difference between the setting and room temperature.(16°C(61°F)~30°C(86°F))
   *Prevention against cold wind : For about 3~5 minutes after initial operation, thermo control or "de-ice", the indoor fan will either not operate or operate very slowly(510 rpm), then switch to the selected fan speed. This period is to allow the indoor unit's heat-exchanger to prewarm before emitting warm air.
   *High temperature release function : The outdoor unit for and compressor ON/OFF control for safety operation, when the overheat is heat exchanger of indoor unit.
   *De-ice : Deicing operation is controlled by indoor unit's heat exchanger temperature and accumulating time of compressor's operation.
   De-ice end by sensing of the processing time by de-ice condition.

4. DRY MODE : Has 3 states, each determined by room temperature.
   The unit operates in DRY mode.
   *Compressor ON/OFF Time is controlled compulsorily(can not set up the fan speed, always breeze).
   *Protective function : Low temperature release. (Prevention against freeze)

5. TURBO MODE : This mode is available in AUTO, COOL, HEAT, DRY, FAN MODE.
   When this button is pressed at first, the air conditioner is operated "powerful" state for 30 minutes regardless of the set temperature, room temperature.
   When this button is pressed again, or when the operating time is 30 minutes, turbo operation mode is canceled and returned to the previous mode.
   *But, if you press the TURBO button in DRY or FAN mode that is changed with AUTO mode automatically.

6. SLEEP MODE : Sleep mode is available only in COOL or HEAT mode.
   The operation will stop after 6 hours.
   *In COOL mode : The setting temperature is automatically raised by 1°C(2°F) each 1hour
   When the temperature has been raised by total of 2°C(4°F), that temperature is maintained.
   *In HEAT mode : The setting temperature is automatically droped by 1°C(2°F) each 1hour.
   When the temperature has been droped by total of 2°C(4°F), that temperature is maintained.

7. FAN SPEED : Manual (3 step), Auto (4 step)
   Fan speed automatically varies depending on both the difference between setting and the room temperature.

8. COMPULSORY OPERATION :
   For operating the air conditioner without the remote controller.
   *AUTO : The operating is the same function that AUTO MODE in the remote controller.

9. SWING : BLADE-H is rotated vertically by the stepping motor.
   *Memory louver : When ON/OFF button is pressed at stop state, the BLADE-H returns to its original location which is operating state before stop
   *Swing Set : Press the button under the remote control is displayed on LCD the , and the blades move up and down, about 43°. If the one more time press the button, blatles location is stop.

10. Quick OFF TIMER: OFF timer (quick timer) allows reservation or cancel the timer off quickly
    When OFF timer button is pressed at operating state, LCD displays the polling state sequentially.
    The LCD also displays the time remaining.

11. 24-Hour ON/OFF Real Setting Timer. : The air conditioner is turned ON at a specified time using ON TIMER.
    OFF TIMER : The air Conditioner is turned OFF at a specified time using OFF TIMER.
    *ON TIMER : Only timer LED lights on.
    *OFF TIMER : Both timer and operation LED lights on.
    *3 minutes delay timer.

12. SELF Diagnosis

LED DISPLAY				Check Point
operation	TIMER	FAN	Turbo	
◑	○	○	○	Interruption of electric power and Power on.
○	◑	○	○	Abnormal condition of the room sensor.
◑	◑	○	○	Abnormal condition of the indoor unit's heat exchanger sensor.
○	○	◑	○	Indoor unit fan motor lock.

◑ : LED blinking ○ : LED off

13. BUZZER SOUND : Whenever the ON/OFF button is pressed or whenever change occurs to the condition which is set up or select, the compulsory operation mode, buzzer is sounded "beep"

1-8-2 Getting Started

You have just purchased a split-type room air conditioner and it has been installed by your installation specialist.

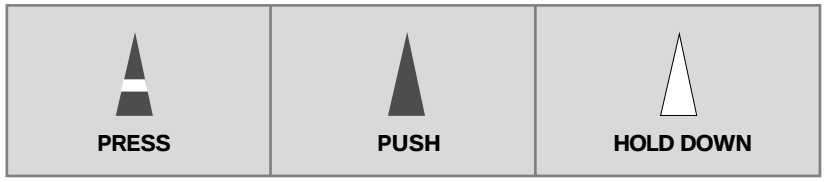
Your Owner's Instructions contain much valuable information on using your air conditioner. Please take the time to read them as they will help you take full advantage of the unit's features.

The booklet is organised as follows.

- The following figures are shown on pages 1-8 and 1-9 :
  - Indoor and outdoor units
  - Remote control (buttons and display)
    They will help you find the buttons and understand the symbols displayed.

- In the main part of the document, you will find a series of step-by-step procedures for each function available.

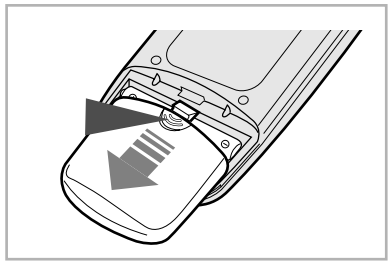
The illustrations in the step-by-step procedures use three different symbols:



1-8-3 Inserting the Remote Control Batteries

You must insert or replace the remote control batteries when:

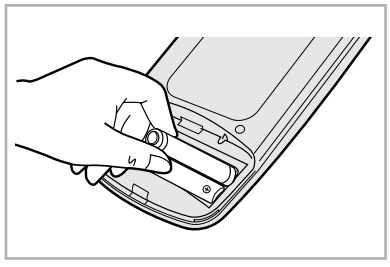
- You purchase the air conditioner
- The remote control does not work correctly



Note Use two LR03 1.5 V batteries. Do not use old batteries or different kinds of batteries together. Batteries may be completely discharged after 12 months, even if they have not actually been used.

1 Slide the remote control out of its holder.

2 Push the battery cover on the rear of the remote control with your thumb in the direction of the arrow and remove it.



3 Insert the two batteries, taking care to respect the polarities:
- + on the battery with + on the remote control
- - on the battery with - on the remote control

4 Close the cover by sliding it back until it clicks into place.

1-8-4 Setting the Time

Your air conditioner contains a clock used to start and stop the unit automatically at a given time.
You must set the time when you:

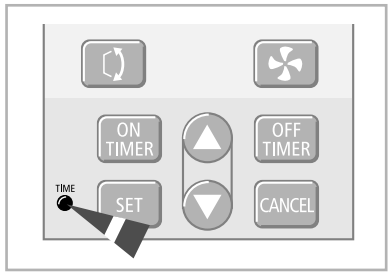
- *Purchase the air conditioner*
- *Replace the batteries*

Note *Be sure to reset the time when you change clocks from standard todaylight savings time and vice versa.*

Setting the Time for the First Time

1 Insert the batteries.
- Push the battery cover on the rear of the remote control with your thumb and remove it.
  Result: The clock starts.

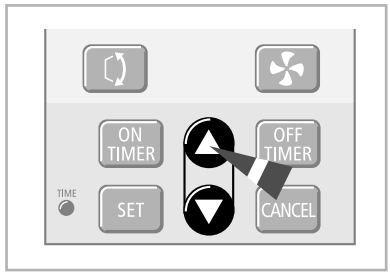
2 Using a small pointed tool (ball-point pen for example), Press the TIME button.
Result: The AM indication flashes.



3 To set the current time, press the ▲ or ▼ buttons under the cover on the remote control.

To...	Then...
Increase the time in one-minute intervals	Press the (▲)button.
Increase the time in ten-minute intervals	Hold down the (▲)button.
Decrease the time in one-minute intervals	Press the (▼)button.
Decrease the time in ten-minute intervals	Hold down the (▼)button.

Result: AM or PM is displayed to indicate whether the setting corresponds to a time before or after midday.



4 When you are satisfied with your setting, confirm the time. To do so: using a small pointed tool (ball-point pen for example), press the TIME button.
Result:
- The AM or PM indication stops flashing.
- The clock starts.

Resetting the Time

If you have already set the time but wish to change it, proceed as follow.

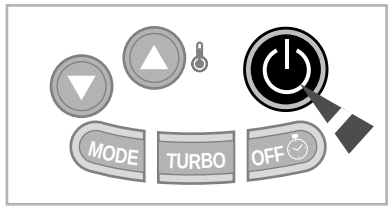
1 Using a small pointed tool (ball-point pen for example), press the TIME button under the remote control flap.
Result: The AM or PM indication flashes.

2 Set the time, following the instructions in Step 3 in the procedure above.

3 When you are satisfied with your setting, confirm the time. To do so, press the button, using a small pointed tool (ball-point pen for example).
Result:
- The AM or PM indication stops flashing.
- The clock starts.

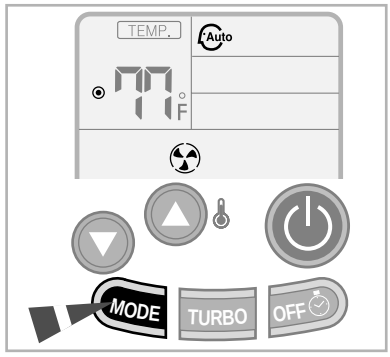
1-8-5 Selecting the Automatic Operating Mode

You can start the air conditioner in Automatic mode from your remote control. In the Automatic mode, the standard temperature and the optimum fan speed is selected automatically. You can adjust the standard temperature but not the fan speed.



1 If necessary, press the (On/Off) button.
Result: ◆ The OPERATION indicator on the indoor unit comes on.
◆ The air conditioner starts up in the mode selected when the unit was last used.
◆ The indoor unit beeps.

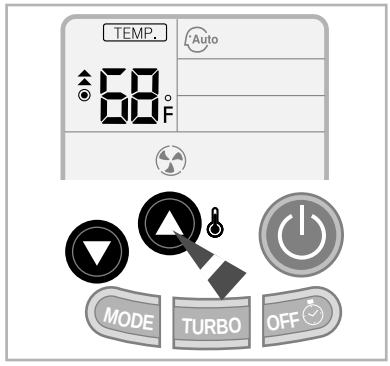
IMPORTANT The air conditioner is fitted with a protection mechanism to prevent the unit from being damaged when it is started immediately after being:
◆ Plugged in
◆ Stopped
It will start up normally after a three-minute.



2 If the Auto indication is not displayed at the top of the remote control, press the MODE button on the remote control one or more times until it appears.
Result: ◆ The indoor unit beeps each time you press MODE .
◆ The air conditioner starts up in AUTO mode.
Note You can change modes at any time.

3 To adjust the standard temperature (The air conditioner automatically set the standard temperature by the current room temperature.), press the or buttons one or more times.

SET TEMP. -2°C(-4°F)	SET TEMP. -1°C(-2°F)	- Standard temperature	SET TEMP. +1°C(2°F)	SET TEMP. +2°C(4°F)
( )	( )	( )	( )	( )
< When you feel hot >			< When you feel chilly >	

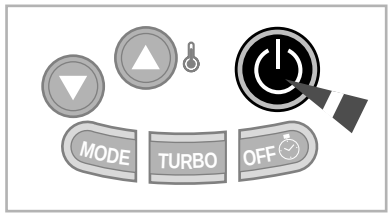


1-8-6 Cooling Your Room

You must select the Cool mode if you wish to adjust the:

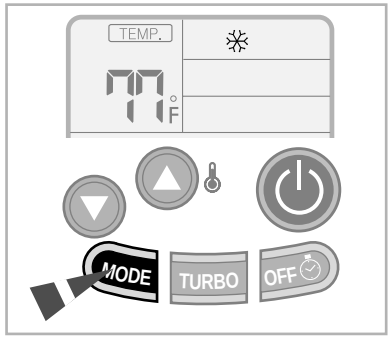
- *Cooling temperature*
- *Fan speed when cooling*

1 If necessary, press the (On/Off) button.
Result: ♦ The OPERATION indicator on the indoor unit comes on.
♦ The air conditioner starts up in the mode selected when the unit was last used.
♦ The indoor unit beeps.

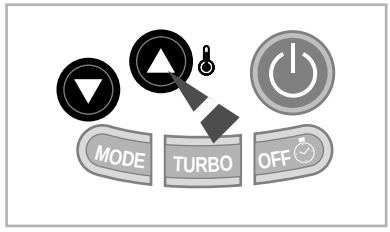


IMPORTANT The air conditioner is fitted with a protection mechanism to prevent the unit from being damaged when it is started immediately after being:
♦ Plugged in
♦ Stopped
It will start up normally after a three-minute.

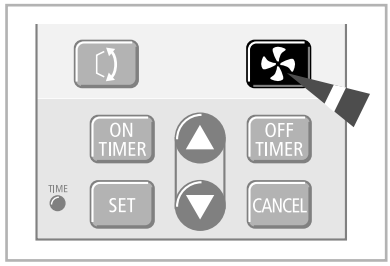
2 If the ❄ indication is not displayed at the top of the remote control, press the MODE button on the remote control one or more times until it appears.
Result: ♦ The indoor unit beeps each time you press MODE.
♦ The air conditioner starts up in Cool mode.
Note You can change modes at any time.



3 To adjust the temperature, press the or buttons one or more times until the required temperature is displayed.
Possible temperatures are between 18°C(61°F) and 30°C(86°F) inclusive.
Result: ♦ Each time you press or :
- The temperature is adjusted by 1°C(2°F)
- The indoor unit beeps
♦ The air conditioner starts cooling, provided that the room temperature is higher than the selected temperature; the fan will, however, operate.



4 Select the fan speed by pressing the button one or more times until the required setting is displayed:
Low
Medium
High
Automatic
Result: Each time you press , the indoor unit beeps.



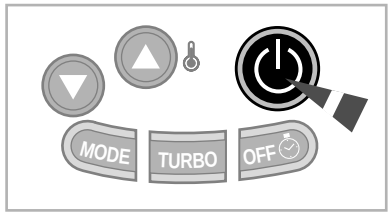
5 To control the direction of the air flow, refer to page 1-23.

1-8-7 Heating Your Room

You must select the Heat mode if you wish to adjust the:

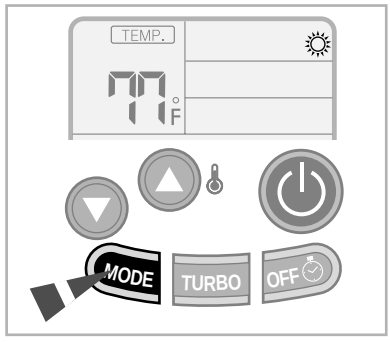
- *Heating temperature*
- *Fan speed when heating*

1 If necessary, press the (On/Off) button.
Result: ♦ The OPERATION indicator on the indoor unit comes on.
♦ The air conditioner starts up in the mode selected when the unit was last used.
♦ The indoor unit beeps.

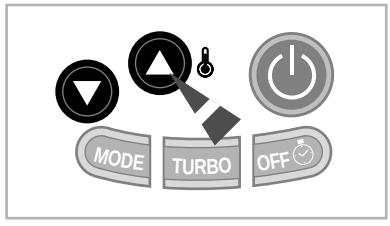


IMPORTANT The air conditioner is fitted with a protection mechanism to prevent the unit from being damaged when it is started immediately after being:
♦ Plugged in
♦ Stopped
It will start up normally after a three-minute.

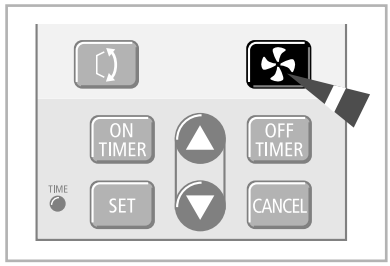
2 If the indication is not displayed at the top of the remote control, press the MODE button on the remote control one or more times until it appears.
Result: ♦ The indoor unit beeps each time you press MODE.
♦ The air conditioner starts up in Heat mode.
Note You can change modes at any time.



3 To adjust the temperature, press the or buttons one or more times until the required temperature is displayed.
Possible temperatures are between 16°C(61°F) and 30°C(86°F) inclusive.
Result: ♦ Each time you press or :
- The temperature is adjusted by 1°C(2°F)
- The indoor unit beeps
♦ The air conditioner starts heating, provided that the room temperature is lower than the desired temperature (selected temperature+3°C(6°F)); the fan will, however, operate.



4 Select the fan speed by pressing the button one or more times until the required setting is displayed:
Low
Medium
High
Automatic
Result: ♦ Each time you press , the indoor unit beeps.
♦ For the first three to five minutes, the fan operates very slowly until the air has been sufficiently warmed. Once the correct temperature has been reached, the fan is automatically set to the required speed.



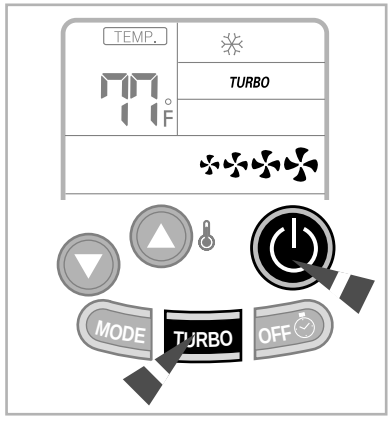
5 To control the direction of the air flow, refer to page 1-23.

1-8-8 Changing the Room Temperature Quickly

The Turbo cooling/heating function is used to cool or heat your room as quickly as possible.

Example: You have just come home and find that the room is very hot. You wish to cool it down as quickly as possible.

The Turbo function operates for 30 minutes with the maximum settings before returning automatically to the mode and temperature previously selected.



1 If necessary, press the (On/Off) button.
Result
- The OPERATION indicator on the indoor unit comes on.
- The air conditioner starts up in the mode selected when the unit was last used.
- The indoor unit beeps.

2 Press the TURBO button.
Result:
- The temperature and fan settings are adjusted automatically.
- The TURBO indicator on the indoor unit lights up.
- The air conditioner cools or heats the room as quickly as possible.
- After 30 minutes, the air conditioner is reset automatically to the previous mode, temperature and fan settings.
  but, if you press the TURBO button in or mode that is changed with Auto mode automatically.

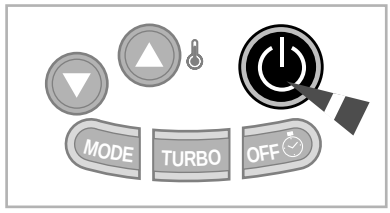
3 If you wish to stop the Turbo function before the end of the 30-minute period, press the TURBO button again.
Result: The air conditioner is reset automatically to the previous mode, temperature and fan settings.
but, if you press the TURBO button in or mode that is changed with Auto mode automatically.

4 To control the direction of the air flow, refer to page 1-23.

1-8-9 Removing Excess Humidity

If the atmosphere in your room is very humid or damp, you can remove excess humidity without lowering the room temperature too much.

1 If necessary, press the (On/Off) button.
Result:
- The OPERATION indicator on the indoor unit comes on.
- The air conditioner starts up in the mode selected when the unit was last used.
- The indoor unit beeps.

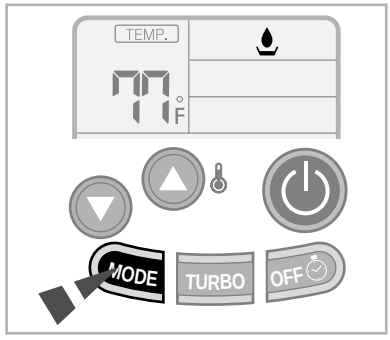


IMPORTANT The air conditioner is fitted with a protection mechanism to prevent the unit from being damaged when it is started immediately after being:
- Plugged in
- Stopped

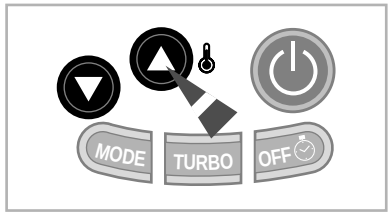
It will start up normally after a three-minute.

2 If the indication is not displayed at the top of the remote control, press the button on the remote control one or more times until it appears.
Result:
- The indoor unit beeps each time you press .
- The air conditioner starts up in Dry mode.

Note You can change modes at any time.



3 To adjust the temperature, press the or buttons one or more times until the required temperature is displayed.
Possible temperatures are between 18°C(65°F) and 30°C(86°F) inclusive.
Result:
- Each time you press or :
  - The temperature is adjusted by 1°C(2°F)
  - The indoor unit beeps
- The air conditioner starts removing the excess humidity; the quantity of air is adjusted automatically.

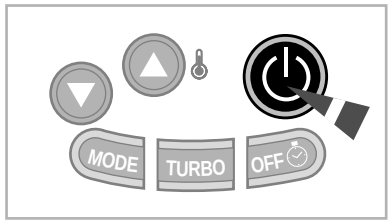


4 To control the direction of the air flow, refer to page 1-23.

1-8-10 Airing Your Room

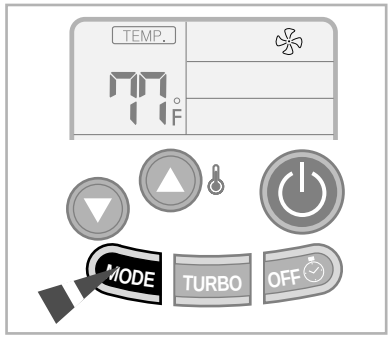
If the atmosphere in your room is stale, you can air the room using the Fan feature.

1 If necessary, press the (On/Off) button.
Result:
- The OPERATION indicator on the indoor unit comes on.
- The air conditioner starts up in the mode selected when the unit was last used.
- The indoor unit beeps.



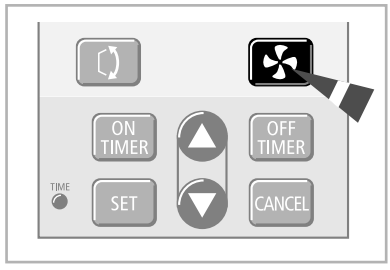
2 If the indication is not displayed at the top of the remote control, press the MODE button on the remote control one or more times until it appears.
Result:
- The indoor unit beeps each time you press MODE .
- The FAN indicator on the indoor unit lights up.
- The air conditioner starts up in Fan mode.
- The temperature is set automatically.

Note You can change modes at any time.



3 Select the fan speed by pressing the button one or more times until the required setting is displayed:
- Low
- Medium
- High

Result: Each time you press , the indoor unit beeps.



4 To control the direction of the air flow, refer to page 1-23.

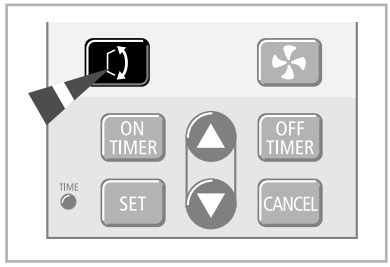
1-8-11 Adjusting the Airflow Direction

1-8-11(a) Adjusting the Air Flow Direction Vertically

Depending on the position of the indoor unit on the wall of your room, you can adjust the position of the outer air flow blade on the bottom of the unit, thus increasing the efficiency of the air conditioner.

1 Press the button under the remote control flap one or more times as required.
Result: The outer blade is adjusted vertically.

RECOMMENDATION	When...	Adjust the blade to face...
	Cooling	Upwards.
	Heating	Downwards.



2 If you want the blade to move up and down automatically when the air conditioner is operating, press the button.
Result: The blade move up and down, around the base position set.

3 To stop the blade moving up and down, press the button again.

Note	If you switch the air conditioner...	Then the blade is...
	Off	**Closed completely.**
	On again	**Reset to the position that you previously selected.**

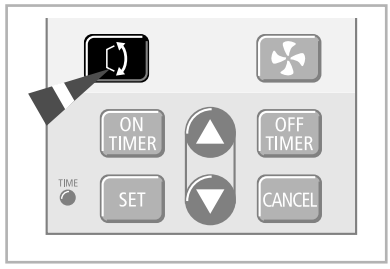
1-8-11(b) Adjusting the Air Flow Direction Horizontally

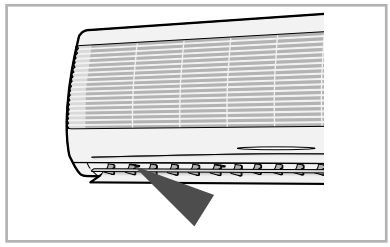
There are two sets of inner air flow blades. Just as the outer air flow blade can be adjusted vertically, the inner blades can be adjusted horizontally.

1 Open the air flow blade along the bottom of the indoor unit, by pressing the button.

2 To stop the blade moving up and down, press the button again.

3 Adjust each set of inner blades to the required position, by pushing or pulling them sideways.





1-8-12 Switching the Unit On and Off Automatically (On/Off Timer)

You can set the timer to switch the air conditioner on and/or off automatically at given times.

Example: *You wish to start cooling your room before you return from work; you decide to:*

- *Switch the air conditioner on at 5:30 p.m.*
- *Switch it off at 11:30 p.m.*

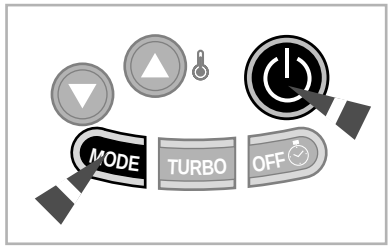
You can set:

- *The switch-on time only*
- *The switch-off time only*
- *Both the switch-on and switch-off times*

IMPORTANT *Check that the current time is correct before setting the timer; if it is not correct, refer to page 1-16 for details on how to set it.*

1 If necessary, press the (On/Off) button.

2 Select the required mode by pressing the MODE button on the remote control one or more times until the appropriate indication appears (in the above example, ✲).



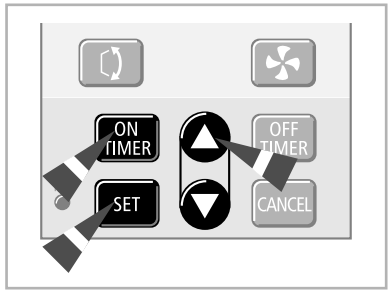
3 Press the ON TIMER button under the cover on the remote control.
Result:
- The ON indication flashes.
- The current preset time is displayed.

Note If you do not press a button within a few seconds, the Timer function is cancelled and you must press the ON TIMER button again.

4 To set the switch-on time, press the ▲ or ▼ buttons.

To...	Then...
Increase the time in ten-minute intervals	Press the ▲ button.
Increase the time in one-hour intervals	Hold down the ▲ button.
Decrease the time in ten-minute intervals	Press the ▼ button.
Decrease the time in one-hour intervals	Hold down the ▼ button.

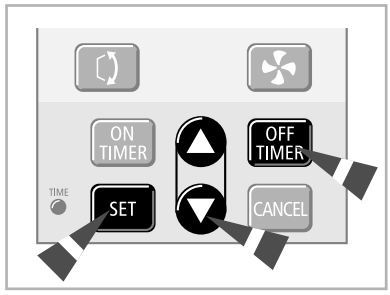
Result: AM or PM is displayed to indicate whether the setting corresponds to a time before or after midday.



5 When you are satisfied with the switch-on time, press SET.
Result:
- The indoor unit beeps.
- The TIMER indicator on the indoor unit lights up yellow.

Note If not necessary to operate the air conditioner until the set up time for starting, press (On/Off) button off.
The air conditioner will start up automatically when the switch-on time is reached.

6 To set the switch-off time, press the OFF TIMER button.
Result:
- The OFF indication flashes.
- The current preset time is displayed.



7 Set the switch-off time, following the instructions in Step 4.

8 When you are satisfied with the switch-off time, press SET.
Result:
- The indoor unit beeps.
- The TIMER indicator on the indoor unit lights up yellow.
- The air conditioner will switch off automatically when the switch-off time is reached.

Note If you wish to cancel the timer, refer to page 1-26.

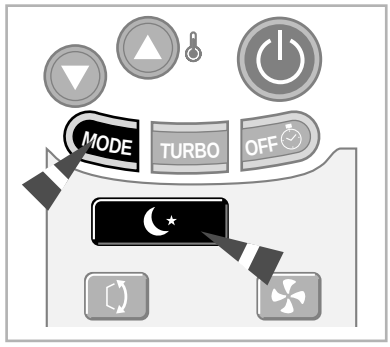
1-8-13 Setting the Sleep Timer

The Sleep Timer can be used when you are cooling or heating your room to switch the air conditioner off automatically after a period of six hours.

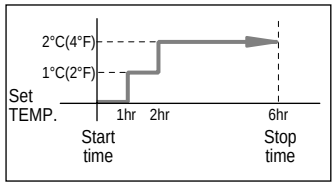
Note *If you wish to switch the unit off at a specific time, refer to page 1-24.*

1 Make sure that you have selected either the ❄ or the ☼ mode.

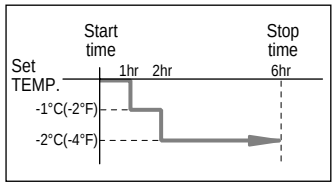
2 Press the ☾ button .
Result:
- ♦ The indoor unit beeps.
- ♦ The ☾ indication is displayed.
- ♦ The air conditioner will be controlled as indicated in the illustrations below.



Cooling The temperature is increased by 1°C(2°F) every hour.
When it has been increased by 2°C(4°F) (after two hours), the temperature is maintained for four hours.



Heating The temperature is decreased by 1°C(2°F) every hour.
When it has been decreased by 2°C(4°F) (after two hours), the temperature is maintained for four hours.



1-8-14 Setting the Quick Timer

The Quick Timer enables you to set the air conditioner to switch off automatically after a given period of time, by pressing one single button. The unit can be switched off automatically after 30 minutes, one hour, two hours, three hours or five hours.

Note *If you wish to switch the unit off at a specific time, refer to page 1-24.*

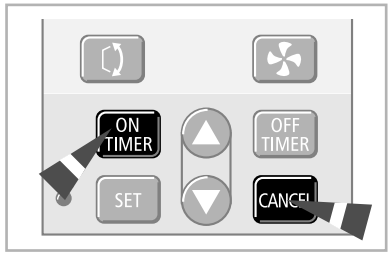
1 If necessary, switch the air conditioner on and select the required mode.

2 Press OFF one or more times until the correct period is displayed:

Result:
- ♦ The TIMER indicator lights up yellow.
- ♦ The air conditioner will switch off automatically when the counter displayed on the remote control reaches 0:00 .

1-8-15 Cancelling the On/Off Timer

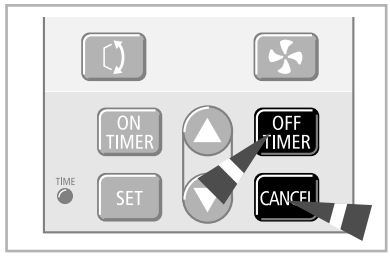
If you no longer wish to use the On/Off Timer that you have set, you can cancel it at any time.



1 **To cancel the...** **Then press...**

Switch-on timer
ON TIMER .
Result: The ON indication flashes.

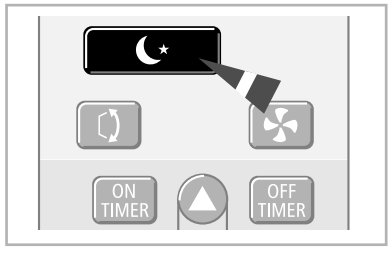
Switch-off timer
OFF TIMER .
Result: The OFF indication flashes.



2 Press the CANCEL button.
Result:
- The indoor unit beeps.
- The TIMER indicator on the indoor unit switches off if no other timer is currently set.
- The air conditioner operates normally.

1-8-16 Cancelling the Sleep Timer

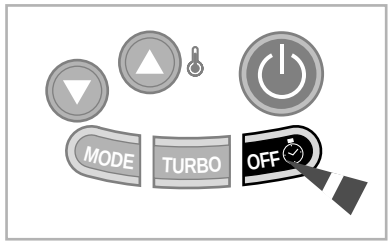
If you no longer wish to use the Sleep Timer that you have set, you can cancel it at any time.



Press the button.
Result:
- The indoor unit beeps.
- The indication is no longer displayed.
- The air conditioner operates normally.

1-8-17 Cancelling the Quick Timer

If you no longer wish to use the Quick Timer that you have set, you can cancel it at any time.



Press the OFF button one or more times until the current time indication is displayed.
Result:
- The indoor unit beeps each time you press OFF.
- The air conditioner operates normally.

1-9 Operating Recommendations

Here are a few recommendations that you should follow when using your air conditioner.

Topic	Recommendation
Heating performances	The heat pump inside the air conditioner absorbs heat from outside air and brings it indoors. If the temperature of the outside air drops, the air conditioner will heat less. If you find that the room is not warm enough, use an additional heating appliance.
Warm air circulation	The air conditioner circulates warm air to heat your room; as a result, some time will be required after starting the air conditioner to warm the entire room. If necessary, set the air conditioner going a short time before you wish to use the room.
Frost	When outside temperatures are low and humidity is high, frost may form in the outdoor unit when heating with your air conditioner. If this happens: ◆ The heating operation is stopped. ◆ The Deice mode is triggered automatically for about seven minutes ◆ The OPERATION indicator on the indoor unit lights up red No intervention is required from you; after about seven minutes, the air conditioner starts operating again normally.
High indoor and outdoor	If both the indoor and outdoor temperatures temperatures are high and you select the Heat mode, the outdoor unit's fan and compressor may stop at times. This is normal; simply wait until the air conditioner switches on again.
Power failure	If a power failure occurs when the air conditioner is operating, the unit is switched off. When the power returns, you must press (On/Off) to restart it.

1-10 Temperature and Humidity Ranges

The following table indicates the temperature and humidity ranges, within which the air conditioner can be used.

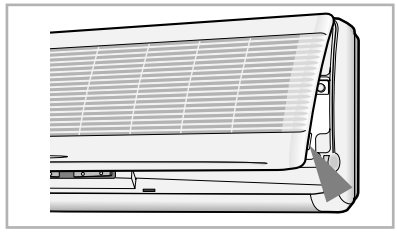
If the air conditioner is used at...	Then...
High temperatures	The automatic protection feature may be triggered and the air conditioner stopped.
Low temperatures	A water leakage or some other malfunction may happen because the heat exchanger freezes.
High humidity levels	Water may condense on and drip from the surface of the indoor unit if it is used for long periods.

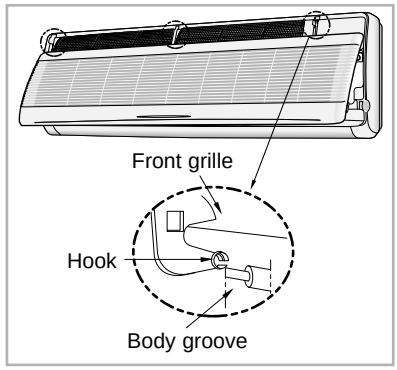
Mode	Outdoor Temperature	Indoor Temperature	Indoor Humidity
Heating	0°C(32°F) to 24°C(75°F) approx.	27°C(81°F) or less	-
Cooling	21°C(70°F) to 43°C(109°F) approx.	18°C(64°F) to 32°C(90°F) approx.	80% or less
Drying	18°C(64°F) to 43°C(109°F) approx.	18°C(64°F) to 32°C(90°F) approx.	-

- *If the heating operation is used at below 0°C(32°F)(outdoor temperature) then, does not a full capacity.*
  If the cooling operation is used at over 33°C(91°F)(indoor temperature) then, does not a full capacity.

1-11 Cleaning Your Air Conditioner

To get the best possible use out of your air conditioner, you must clean it regularly to remove the dust that accumulates on the air filter.





IMPORTANT *Before cleaning your air conditioner, ensure that you have switched off the breaker used for the unit.*

1 Open the front grille by pulling on the tabs on the lower right and left sides of the indoor unit.

2 Lift out the bottom edge of the air filters and pull down to release them.

3 Remove all dust on the air filters with a vacuum cleaner or brush.

4 When you have finished, insert the top part of the filters into their slot and push down on the bottom edge until they click into place.

5 Clean the front panel with a damp cloth and mild detergent (do NOT use benzene, solvents or other chemicals).

Note

- If you have not used the air conditioner for a long period of time, set the fan going for three to four hours to dry the inside of the air conditioner thoroughly.
- The removal of the front grille facilitates your cleaning the air conditioner. After opening the front grille, lift up to the max, push slightly to the left, and pull down to release them and vice versa.

MEMO

2

SPECIFICATIONS

2. SPECIFICATIONS

2-1 Series V

2-1-1 Cooling only **2-1**
2-1-2 Heat Pump **2-2**

2-2 Performance Data

2-2-1 7000BTU **2-3**
2-2-2 9000BTU **2-3**
2-2-3 12,000BTU **2-4**
2-2-4 Cooling capacity correction factors **2-4**
2-2-5 Refrigerant charging **2-4**

2-3 Noise level measurement

2-3-1 Noise level check point **2-5**
2-3-2 Noise level Curve(indoor unit) **2-6**
2-3-3 Noise level Curve(outdoor unit) **2-7**

2-4 Refrigerating cycle block diagram

2-4-1 Cooling only **2-8**
2-4-2 Heat Pump **2-9**

2-5 Operation Characteristics

2-5-1 Cooling mode operation **2-10**
2-5-2 Heating mode operation **2-10**
2-5-3 Automatic operation **2-11**
2-5-4 Sleeping operation
2-5-4(a) At cooling mode **2-11**
2-5-4(b) At heating mode **2-12**
2-5-5 Mild operation
2-5-5(a) At cooling mode **2-12**
2-5-5(b) At heating mode **2-13**
2-5-6 Turbo operation(Cooling or Heating mode) **2-13**
2-5-7 Indoor fan control in the heating mode **2-14**
2-5-8 Overload protection control
2-5-8(a) At heating mode **2-15**
2-5-8(b) At cooling mode **2-15**
2-5-9 Defrost control **2-16**
2-5-10 Freezing protection control(In the cool mode) **2-17**
2-5-11 The others **2-17**

2. SPECIFICATIONS

2-1 Series V

2-1-1 Cooling only

Item				7,000		9,000		12,000	
				Cooling	Heating	Cooling	Heating	Cooling	Heating
Power Supply			-	1Ø-60Hz, 115V~		1Ø-60Hz, 115V~		1Ø-60Hz, 208~230V~	
Capacity			BTU/h	7,500	-	9,000	-	11,500	-
			kW/h	2.20	-	2.64	-	3.37	-
Total Input			W	670	-	880	-	1,280	-
Energy efficiency			BTU/hW	11.2	-	10.2	-	9.0	-
			-	3.28	-	3.00	-	2.63	-
Dehumiditying			Pts/h	2.56	-	3.41	-	4.05	-
Running current			A	6.3	-	8.3	-	5.8	-
Starting current			A	34.0	-	45.0	-	33.0	-
INDOOR UNIT	Model name			AS07A2VA		AS09A2VA		AS12A2VC	
	Air volume	Hi	CFM	212	-	230	-	276	-
		Mid	CFM	187	-	205	-	250	-
		Low	CFM	162	-	180	-	226	-
	Noise level	Hi	dB(A)	36.5	-	40.5	-	43.5	-
		Mid	dB(A)	34.5	-	38.5	-	41.5	-
		Low	dB(A)	33	-	36.5	-	39.5	-
	Fan type		-	Ø95 Cross Flow Fan		Ø95 Cross Flow Fan		Ø95 Cross Flow Fan	
	Fan motor output		W	35		35		35	
	Heat exchanger	Type	-	Fin-Tube		Fin-Tube		Fin-Tube	
		Area	m^2	0.154 (2Row)		0.154 (2Row)		0.154 (2Row)	
		Fin Pitch	mm	1.5 Slit		1.5 Slit		1.2 Plate	
		Finish	-	Resin Co		Resin Co		Resin Co	
	Booster Heater		kW	-		-		-	
	Cond drain conn		mm	OD17 (0.67")		OD17 (0.67")		OD17 (0.67")	
	Dimensions	W	mm	815 (32.08")		815 (32.08")		815 (32.08")	
		H	mm	298 (11.73")		298 (11.73")		298 (11.73")	
		D	mm	182 (7.17")		182 (7.17")		182 (7.17")	
	Weight		kg	9.6 (2.2ib)		9.6 (2.2ib)		9.6 (2.2ib)	
OUTDOOR UNIT	Model name		-	US07A2VA		US09A2VA		US12A2VC	
	Air volume		CFM	742	-	742	-	795	-
	Noise level		dB(A)	45	-	47	-	48	-
	Fan type		-	Ø405 Propeller		Ø405 Propeller		Ø405 Propeller	
	Fan motor output		W	20		20		30	
	Heat exchanger	Type	-	Fin-Tube		Fin-Tube		Fin-Tube	
		Area	m^2	0.345 (1Row)		0.345 (1Row)		0.345 (2Row)	
		Fin pitch	mm	1.5 Wave		1.5 Wave		1.5 Wave	
		Finish	-	-		-		-	
	Compressor	Type	-	Rotary		Rotary		Rotary	
		Model	-	44A072HW1E1		44B092HW1EG		48A135IV1E5	
		Resistance	Ω	-		-		-	
		Oil	-	Suntex-200LT / 280 cc		SUNISD-4GSD-T / 360 cc		Suntex - 200LT / 410 cc	
		O,L,P	Model	MRA98706-12008		MRA12093-12007		MRA12002-9200	
		Capacitor	µF X V	25µF X 370V		45µF X 370V		25µF X 450V	
		L.R.A	A	32.0		47.0		31.0	
	Dimensions	W	mm	720 (28.35")		720 (28.35")		720 (28.35")	
		H	mm	525 (20.67")		525 (20.67")		525 (20.67")	
		D	mm	245 (9.65")		245 (9.65")		245 (9.65")	
	Weight		kg	27 (59.5ib)		27 (59.5ib)		31 (ib)	
PIPING	Refrigerant		-	R-22		R-22		R-22	
	R-Charge		1b(oz)	1.34 (21.5)		1.54 (24.7)		1.94 (31.0)	
	Pipe Size (OD)	Liquid	mm	6.35 (1/4")		6.35 (1/4")		6.35 (1/4")	
		Gas	mm	9.52 (3/8")		9.52 (3/8")		12.7 (1/2")	
	Connection method		-	Flared		Flared		Flared	
	Between	Height	m	10 (10.936yd)		10 (10.936yd)		10 (10.936yd)	
		Length	m	3 (3.28yd)		3 (3.28yd)		3 (3.28yd)	

* Rating conditions cool : Indoor DB26.7°C(80.0°F), WB19.4°C(67.0°F) Outdoor DB35°C(95.0°F), WB23.9°C(75.0°F)

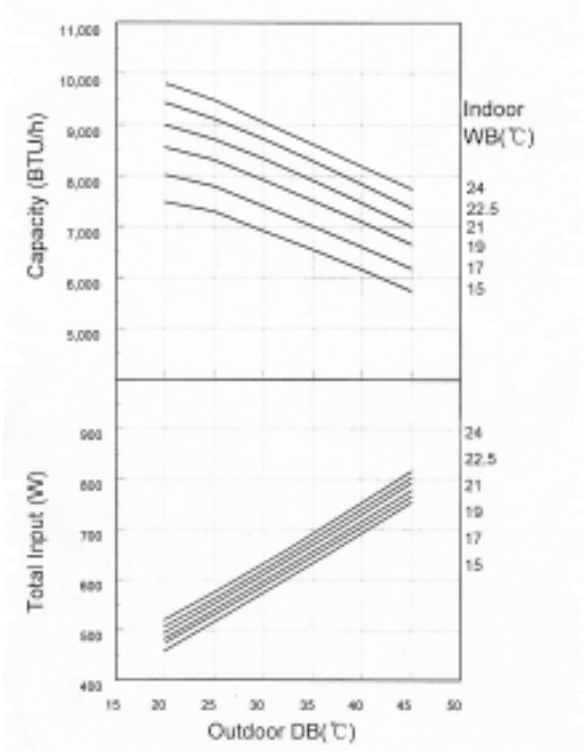
2-1-2 Heat Pump

Item				9,000		12,000	
				Cooling	Heating	Cooling	Heating
Power Supply			-	1Ø-60Hz, 115V~		1Ø-60Hz, 208~230V~	
Capacity			BTU/h	9,000	9,500	11,500	12,500
			kW	2.64	2,78	3.37	3.66
Total Input			W	900	880	1,280	1,430
Energy efficiency			BTU/hW	10.0	10.8	9.0	8.7
			-	2.93	3.16	2.64	2.55
Dehumiditying			Pts/h	3.41	-	4.05	-
Running current			A	8.5	8.2	6.0	6.4
Starting current			A	45.0		33.0	
INDOOR UNIT	Model name			AQ09A2VA		AQ12A2VC	
	Air volume	Hi	CFM	230	244	276	290
		Mid	CFM	205	215	250	265
		Low	CFM	180	191	226	240
	Noise level	Hi	dB(A)	40.5	40.0	43.5	43.0
		Mid	dB(A)	38.5	38.0	41.5	41.0
		Low	dB(A)	36.5	36.0	39.5	39.0
	Fan type		-	Ø95 Cross Flow Fan		Ø95 Cross Flow Fan	
	Fan motor output		W	35		35	
	Heat exchanger	Type	-	Fin-Tube		Fin-Tube	
		Area	m^2	0.154 (2Row)		0.154 (2Row)	
		Fin pitch	mm	1.5Slit		1.2Plate	
		Finish	-	Resin Co		Resin Co	
	Booster Heater		kW	-		-	
	Cond drain conn		mm	OD17 (0.67")		OD17 (0.67")	
	Dimensions	W	mm	815 (32.08")		815 (32.08")	
		H	mm	298 (11.73")		298 (11.73")	
		D	mm	182 (7.17")		182 (7.17")	
	Weight		kg	9.6 (21.2ib)		9.6 (21.2ib)	
OUTDOOR UNIT	Model name		-	UQ09A2VA		UQ12A2VC	
	Air volume		CFM	742	-	795	-
	Noise level		dB(A)	47	48	48	49
	Fan type		-	Ø400 Propeller		Ø400 Propeller	
	Fan motor output		W	20		30	
	Heat exchanger	Type	-	Fin-Tube		Fin-Tube	
		Area	m^2	0.345(1Row)		0.345(2Row)	
		Fin pitch	mm	1.3 Wave		1.5 Wave	
		Finish	-	Resin Co		Resin Co	
	Compressor	Type	-	Rotary		Rotary	
		Model	-	44B092HW1EG		48H135IV1E5	
		Resistance	Ω	-		-	
		Oil	-	Suniso 4GSD / 360 cc		Suniso 4GSD / 410 cc	
		O,L,P	Model	MRA12093-12007		MRA12002-9200	
		Capacitor	µF X V	45µF X 370V		25µF X 450V	
	Dimensions	W	mm	720 (28.35")		720 (28.35")	
		H	mm	525 (20.67")		525 (20.67")	
		D	mm	245 (9.65")		245 (9.65")	
	Weight		kg	28 (61.7ib)		32 (ib)	
PIPING	Refrigerant		-	R-22		R-22	
	R-Charge		1b(oz)	1.70(27.2)		2.07(35.2)	
	Pipe Size	Liquid	mm	6.35 (1/4")		6.35 (1/4")	
	(OD)	Gas	mm	9.52 (3/8")		12.7 (1/2")	
	Connection method		-	Flared		Flared	
	Between	Height	m	10 (10.936yd)		10 (10.936yd)	
		Length	m	3 (3.28yd)		3 (3.28yd)	

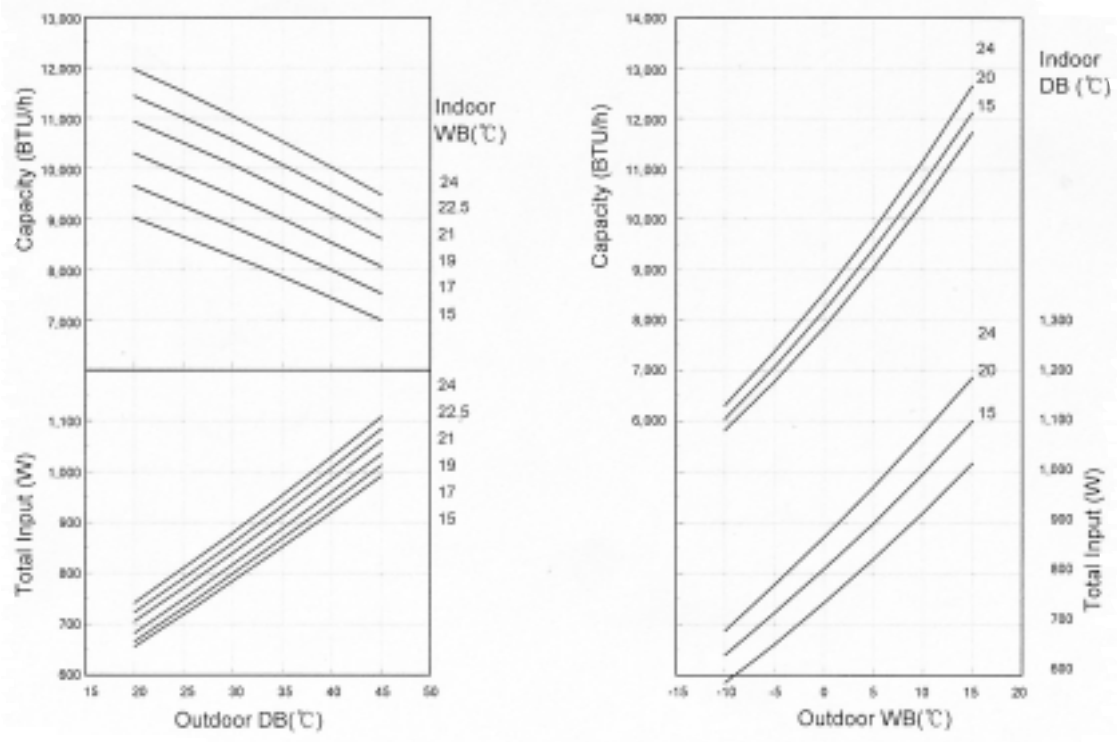
* Rating conditions cool : Indoor DB26.7°C(80.0°F), WB19.4°C(67.0°F) Outdoor DB35°C(95.0°F), WB23.9°C(75.0°F)
* Rating conditions Heat : Indoor DB21.1°C(70.0°F), WB15.6°C(60.0°F) Outdoor DB8.3°C(47.0°F), WB6.1°C(43.0°F)

2-2 Performance Data

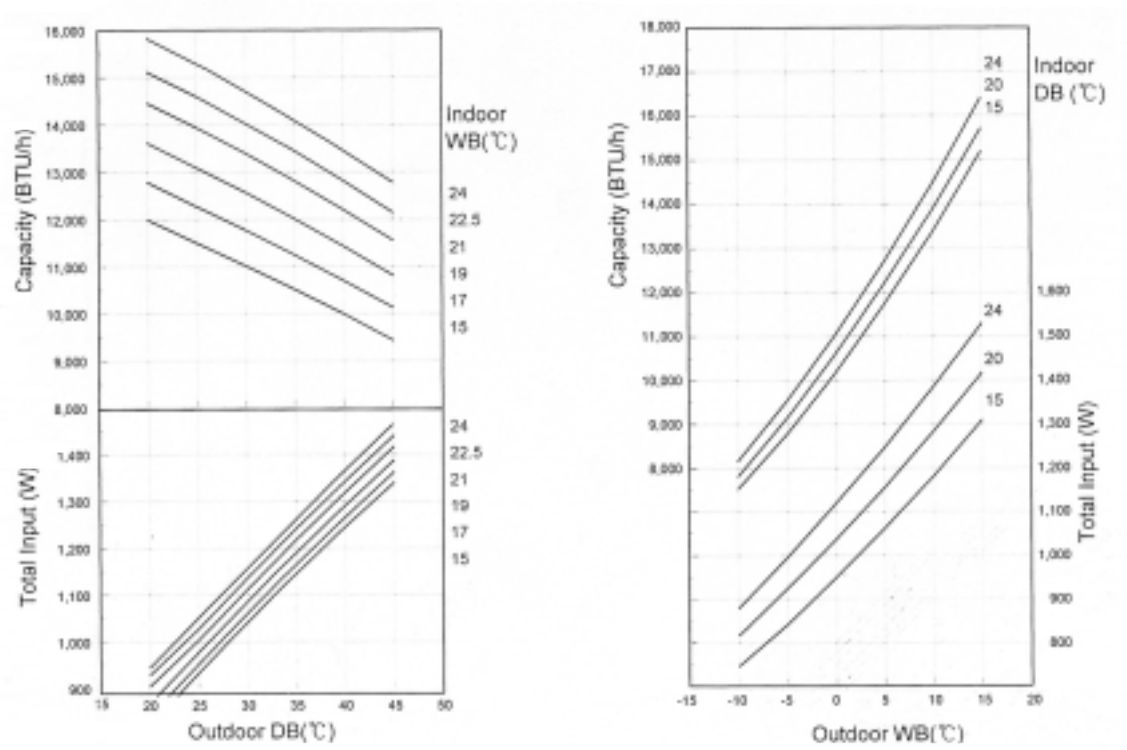
2-2-1 7000BTU



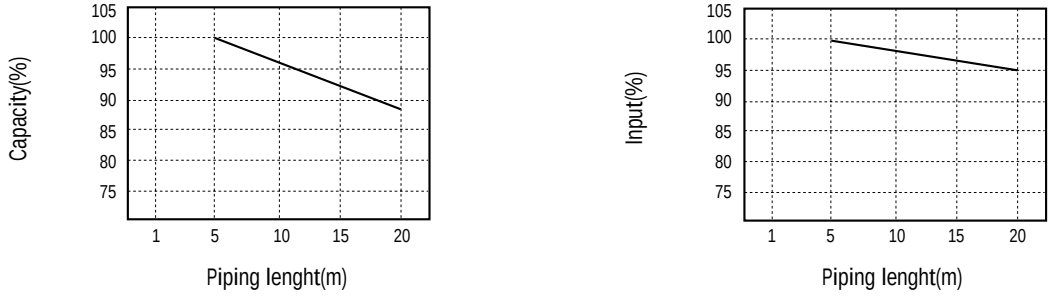
2-2-2 9000BTU



2-2-3 12,000BTU



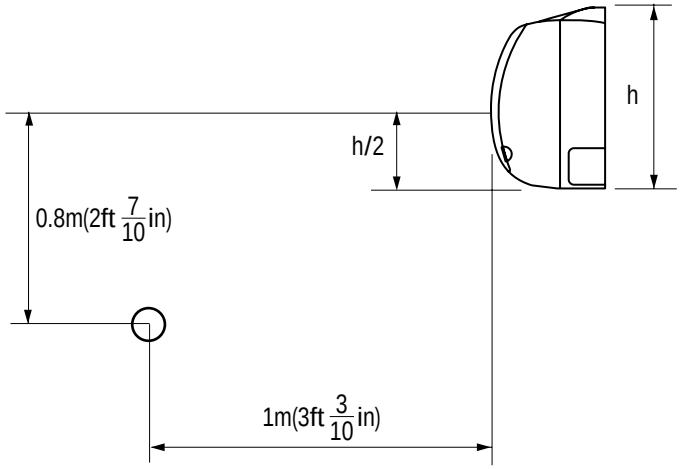
2-2-4 Cooling capacity correction factors



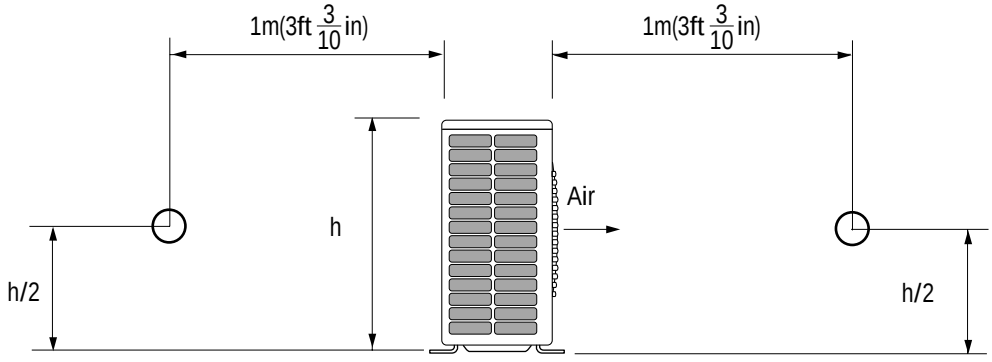
2-3 Noise level measurement

2-3-1 Noise level check point

■ Indoor unit

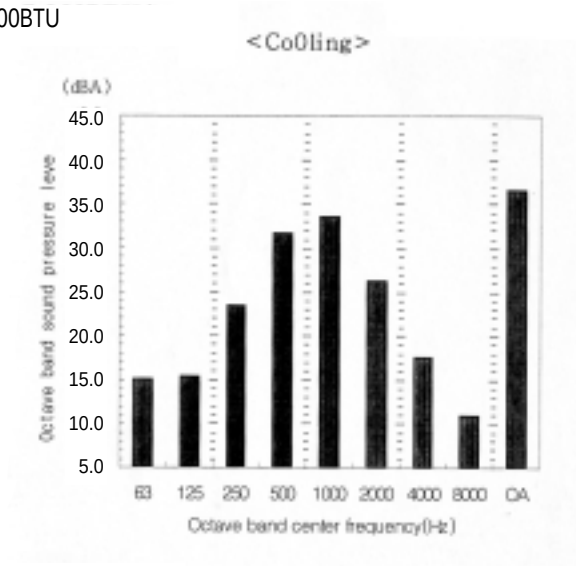


■ Outdoor unit

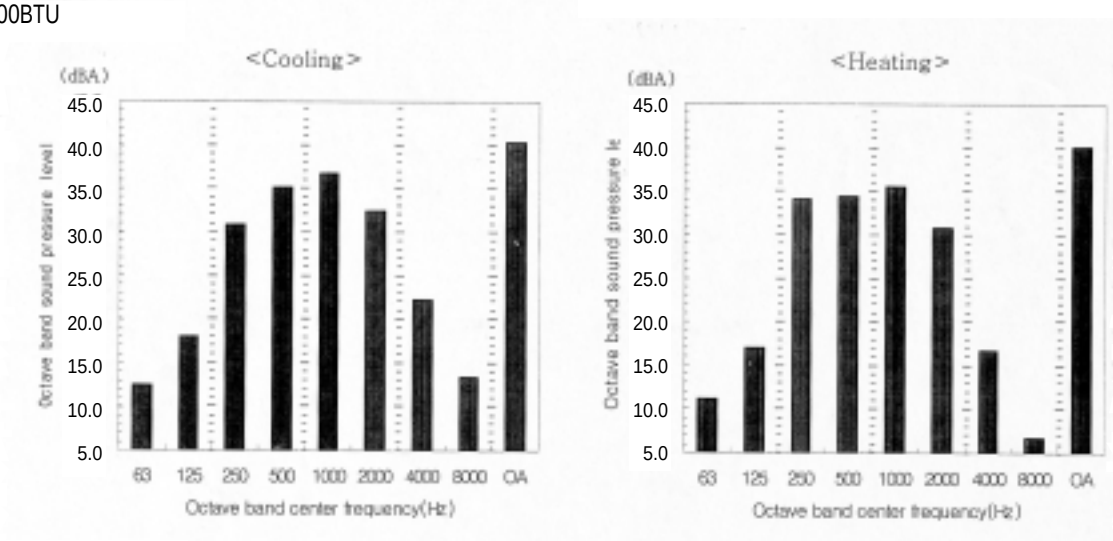


2-3-2 Noise level Curve(indoor unit)

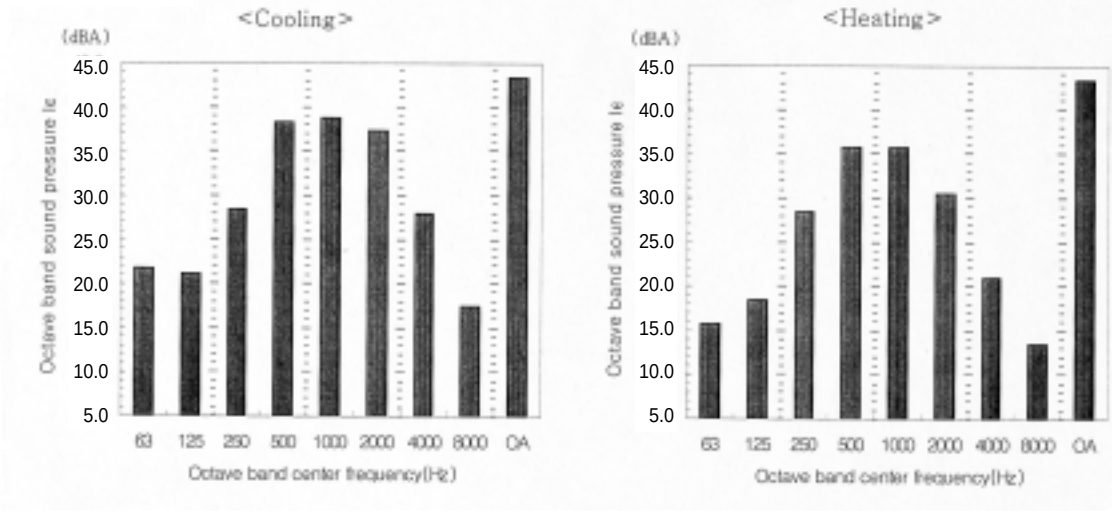
■ 7,000BTU



■ 9,000BTU

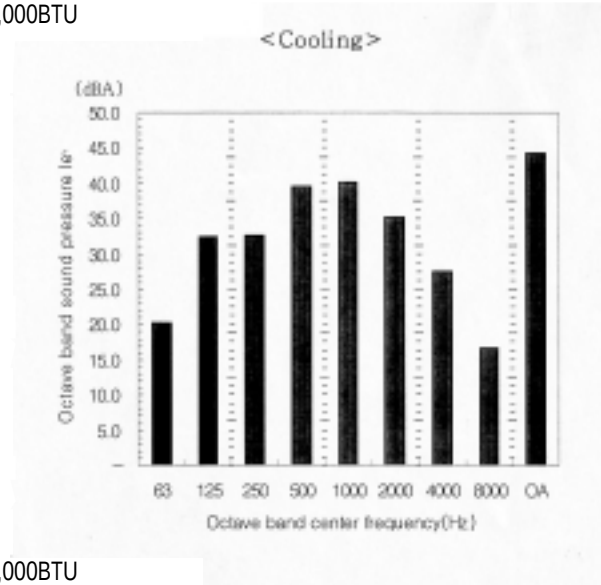


■ 12,000BTU

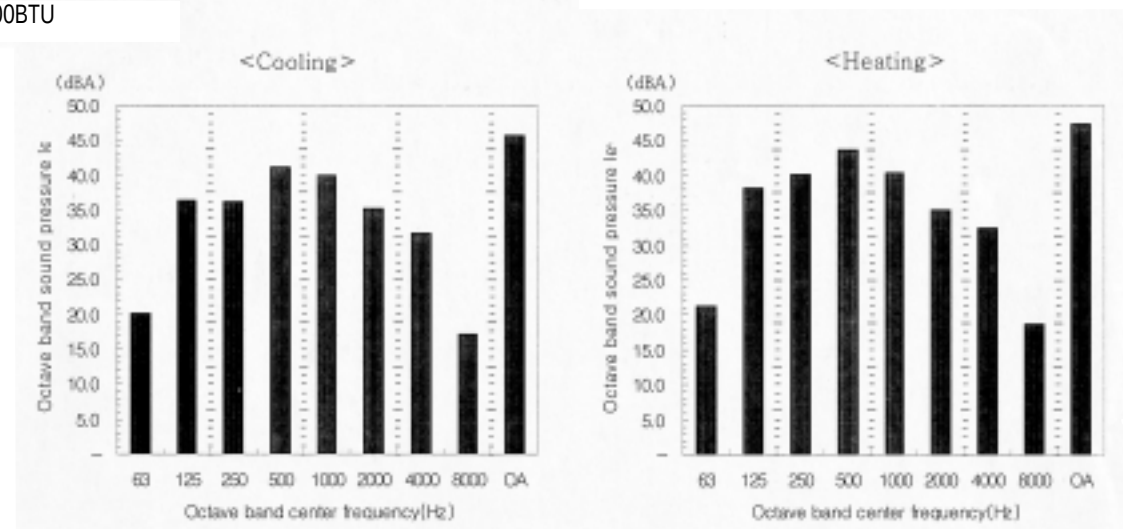


2-3-3 Noise level Curve(outdoor unit)

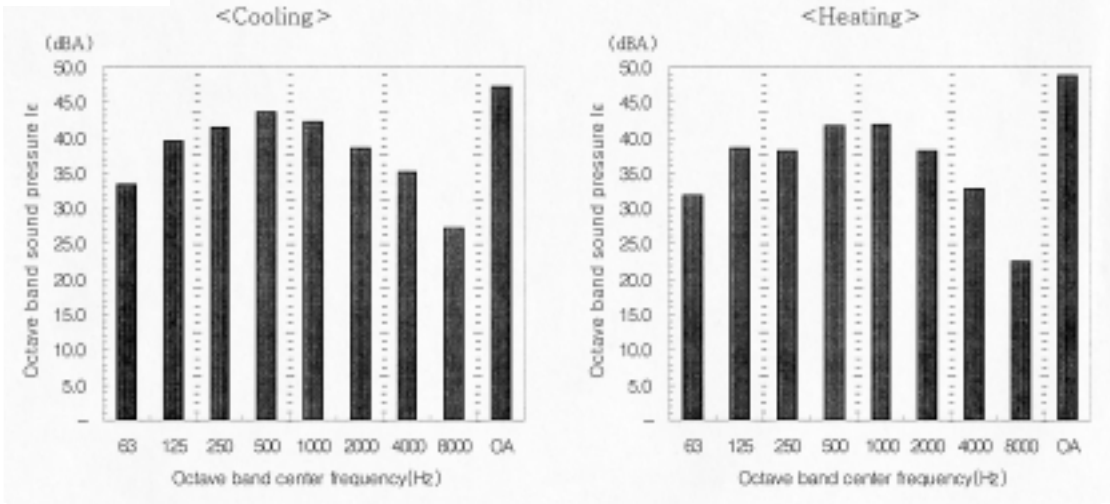
■ 7,000BTU



■ 9,000BTU

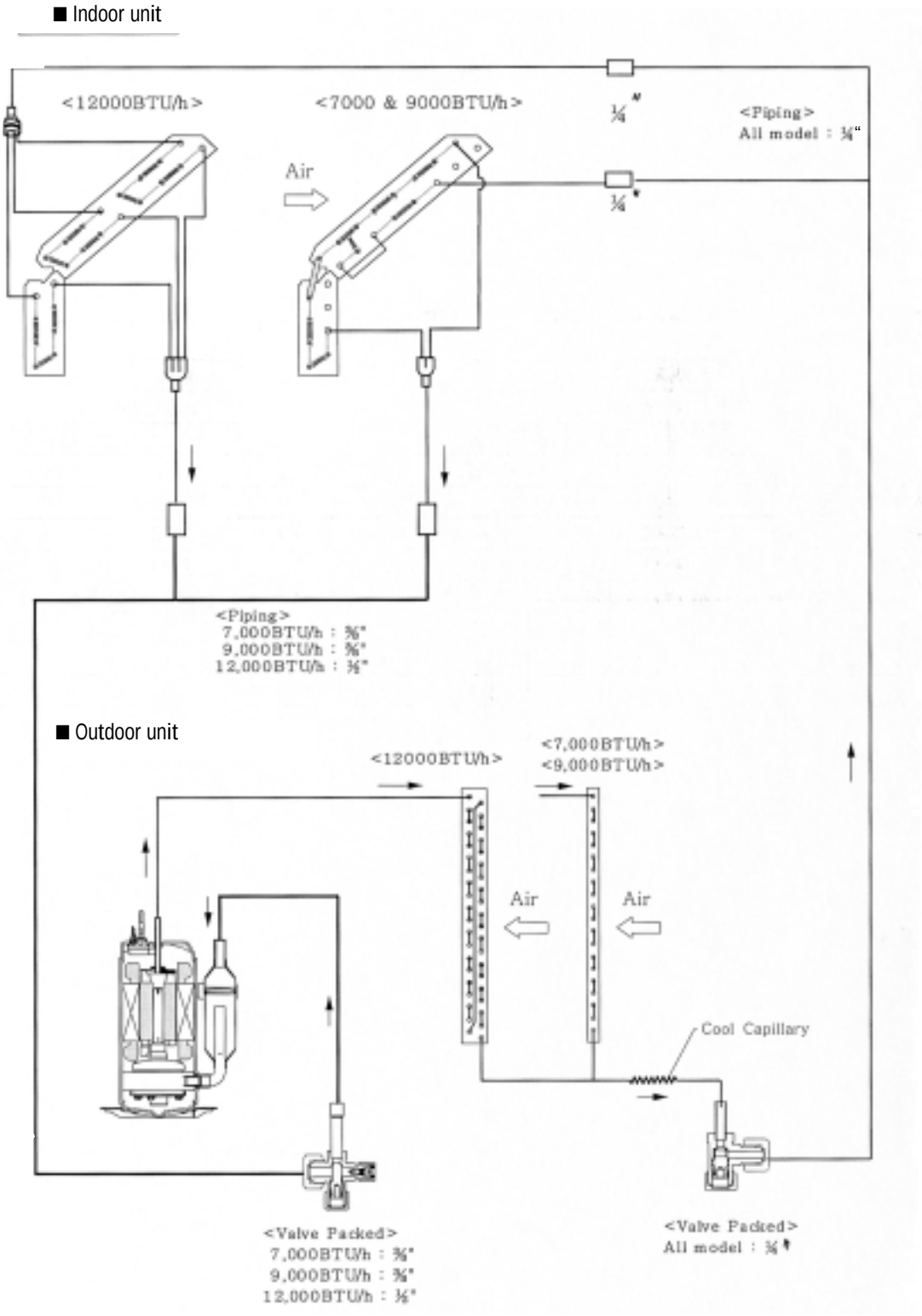


■ 12,000BTU

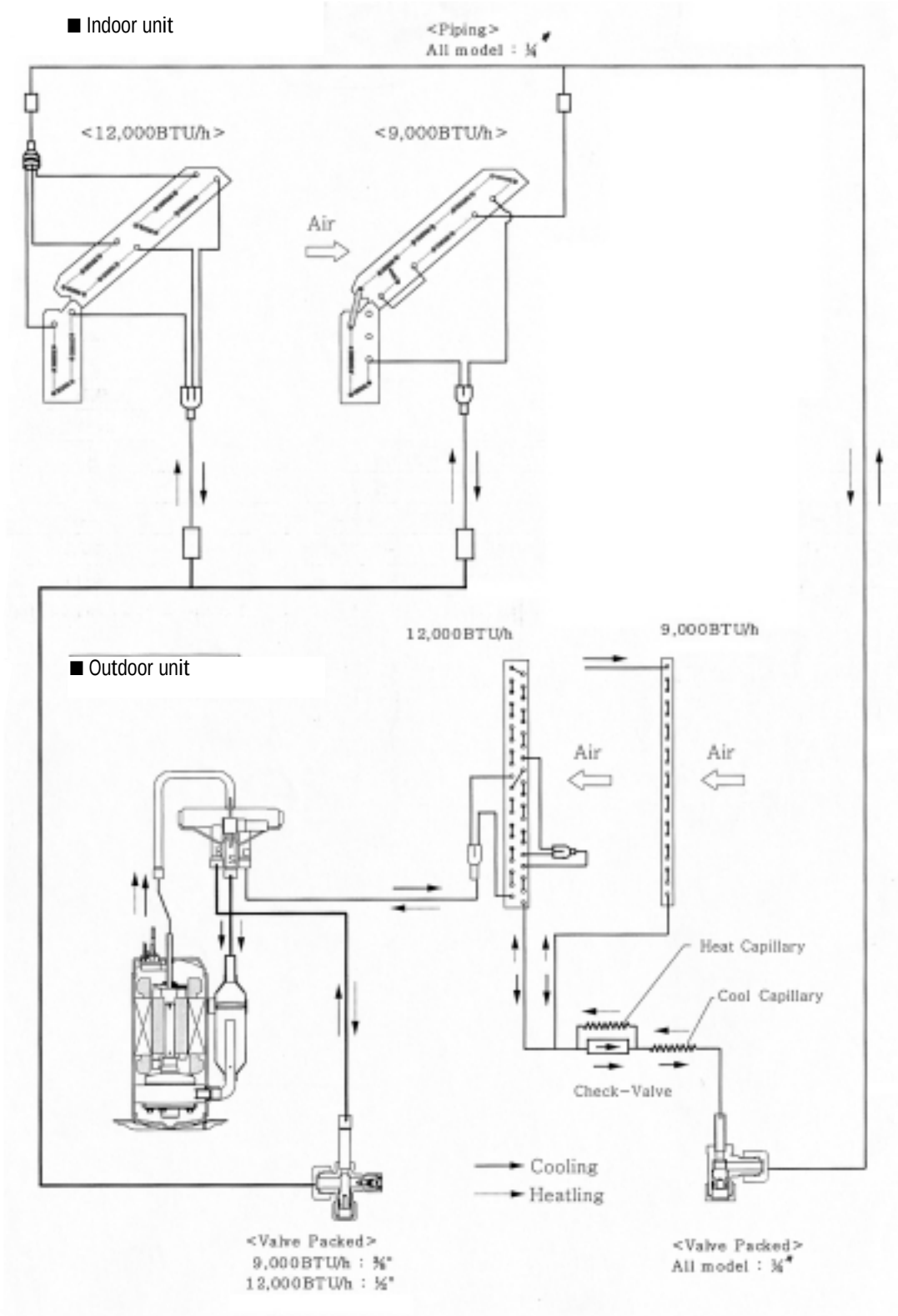


2-4 Refrigerating cycle block diagram

2-4-1 Cooling only



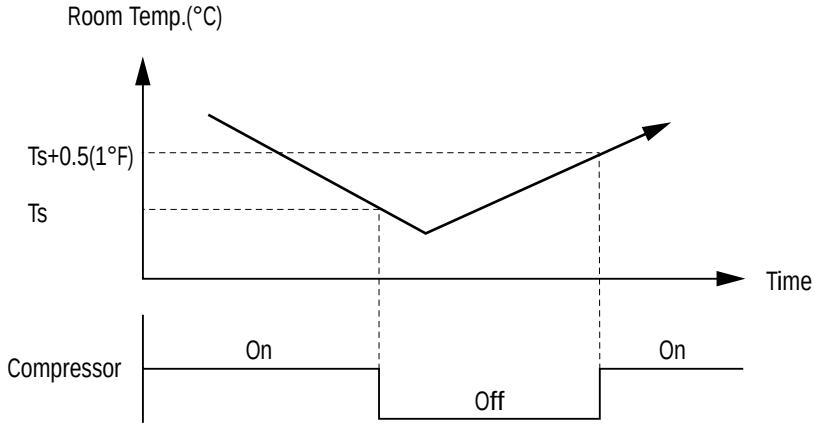
2-4-2 Heat Pump



2-5 Operation Characteristics

2-5-1 Cooling mode operation

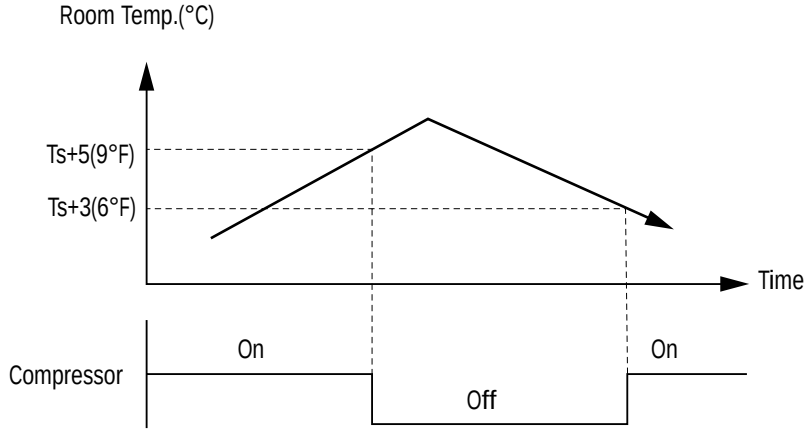
When selecting the Cooling Mode Operation, the unit will operate according to the setting by the remote controller and the operation is as well as the following. Room temperature can be set in 1°C(2°F) steps in the range of 18(64°F) to 30°C(86°F).



• Ts means Remote Controller setting Temperature

2-5-2 Heating mode operation

When selecting the Heating Mode Operation, the unit will operate according to the setting by the remote controller and the operation is as well as the following. Room temperature can be set in 1°C(2°F) steps in the range of 16(61°F) to 30°C(86°F).



2-5-3 Automatic operation

When Automatic operation is set by the remote controller, the air conditioner senses the room temperature then automatically selects the operation mode and setting temperature.

Standard Setting Temp.	Operating Mode	Setting Temp.	Remarks
Tsp = 21°C(70°F) + qT	Cooling	Tsp = 24°C(75°F) + qT	qT = -2(-4°F), -1(-2°F), 1(2°F), 2(4°F)
	Heating	Tsp = 22°C(72°F) + qT	

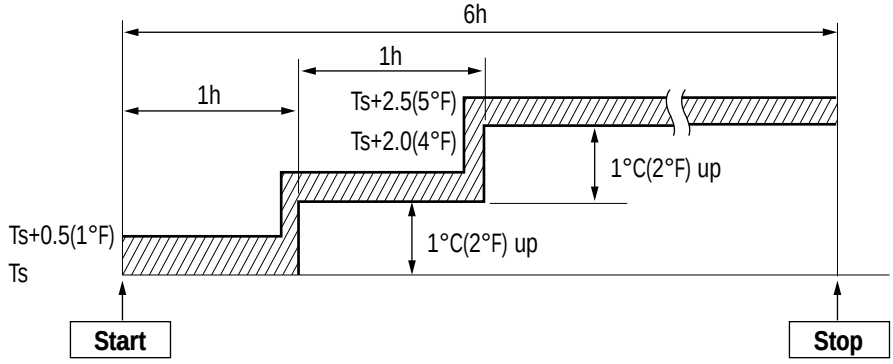
❍ In case that Room Temp. ≥ 21°C(70°F) + qT, The Unit is operated is operated in the Cool Mode.
❍ In case that Room Temp. < 21°C(70°F) + qT, The Unit is operated in the Heat Mode.
❍ qT means that user is able to change setting temperature within ±2(±4°F).

2-5-4 Sleeping operation

2-5-4(a) At cooling mode

When you set the sleep mode, the following movement will start to avoid overcooling.

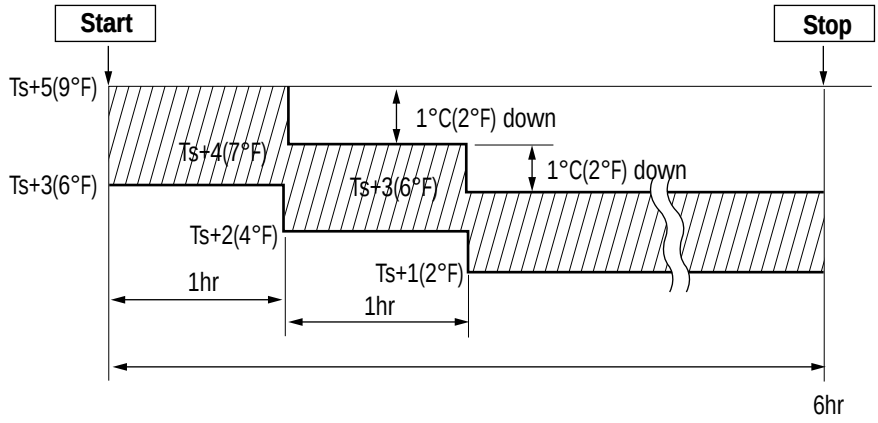
- The indoor fan speed is fixed by setting the remote controller.
- The setting temperature will rise by 1°C(2°F) at the starting of operation and by 1°C(2°F) one hour later.
- The operation will stop after 6 hours.



2-5-4(b) At heating mode

When you set the sleep mode, the following movement will start to avoid overheating.

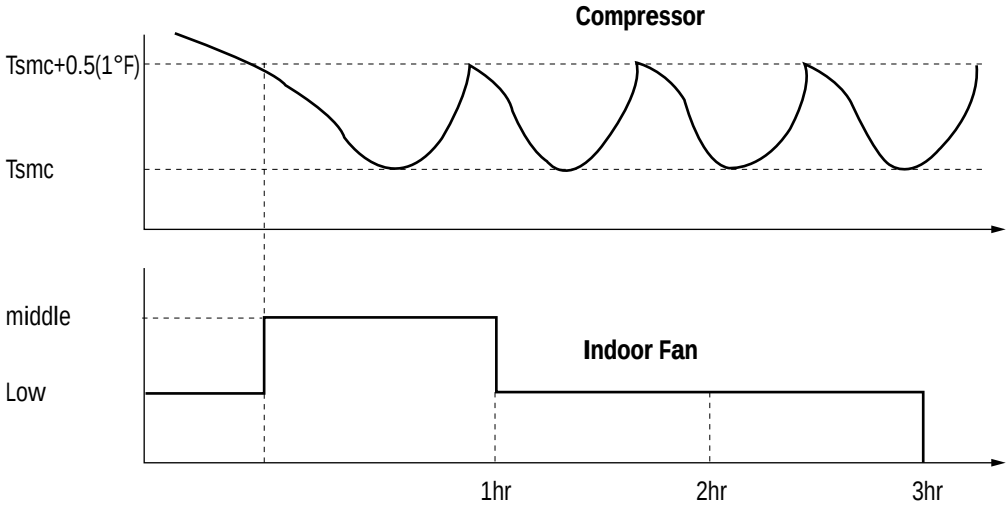
- The indoor fan speed is fixed by setting the remote controller.
- The setting temperature will be dropped by 1°C(2°F) at the starting of operation and by 1°C(2°F) one hour later.
- The operation will stop after 6 hours.



2-5-5 Mild operation

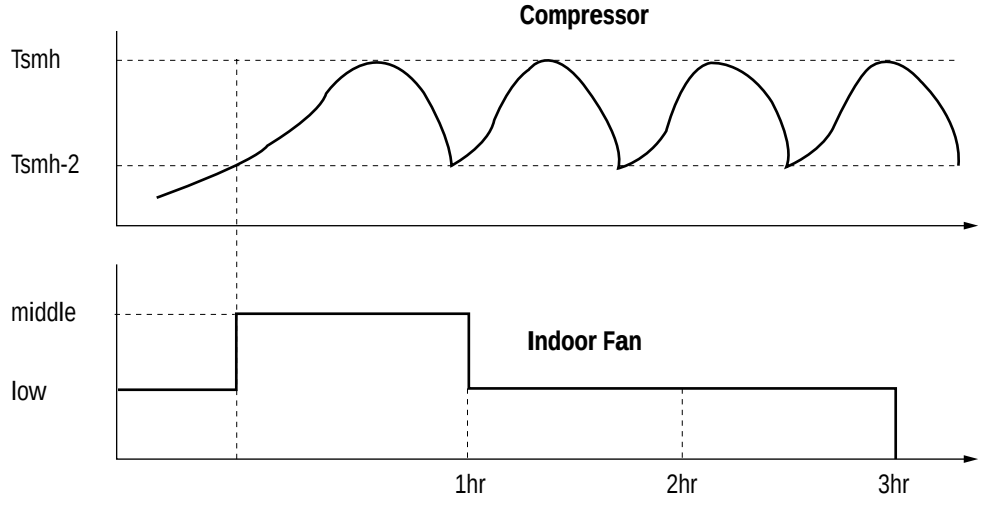
2-5-5(a) At cooling mode

- The setting temperature(Tsar) is set to 3°C(6°F) over the temperature set at prior operation.
- The fan operates at a middle speed for 1 hour from the starting and after that it operates at a low speed for 2 hour.



2-5-5(b) At heating mode

- The setting temperature(Tsar) is set to 3°C(6°F) below the temperature set at prior operation.
- The fan operates at a middle speed for 1 hour from the starting and after that it operates at a low speed for 2 hour.



2-5-6 Turbo operation(Cooling or Heating mode)

If turbo operation is selected during heating or cooling mode, compressor is operated for 30minutes regardless of room temperature. After 30minutes of turbo operation unit will operate in normal state

2-5-7 Indoor fan control in the heating mode

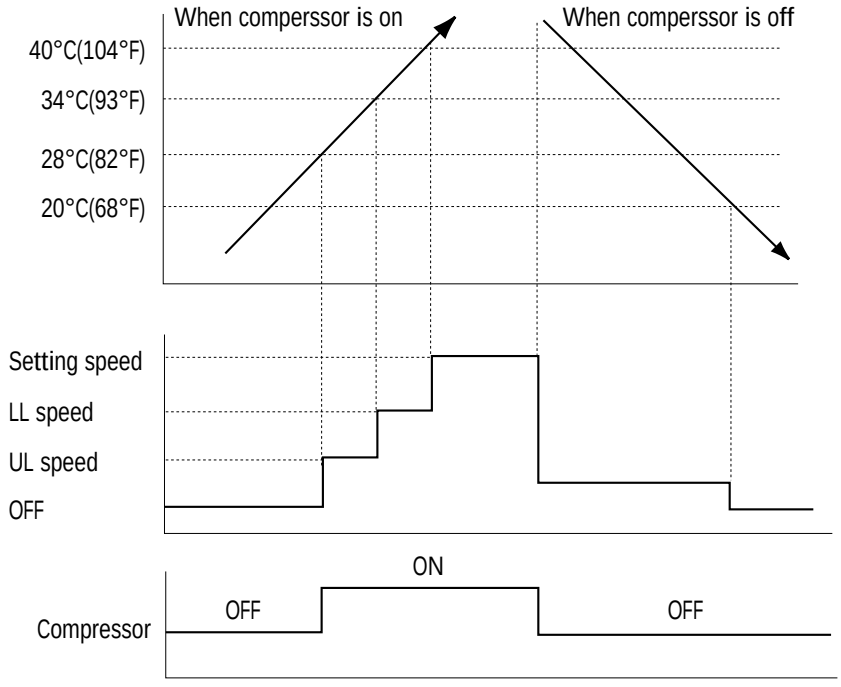
Indoor fan is controlled depending on the temperature of indoor heat exchanger in the geating mode.

1) Indoor fan control
(1) When compressor begins operating

The temperature of indoor heat exchanger	Indoor fan speed
below 28°C(82°F)	off
28°C(82°F) ~ below 34°C(93°F)	UL speed (510rpm)
34°C(93°F) ~ below 40°C(104°F)	LL speed (Low-35rpm)
above 40°C(104°F)	setting speed

(2) When compressor stops operating

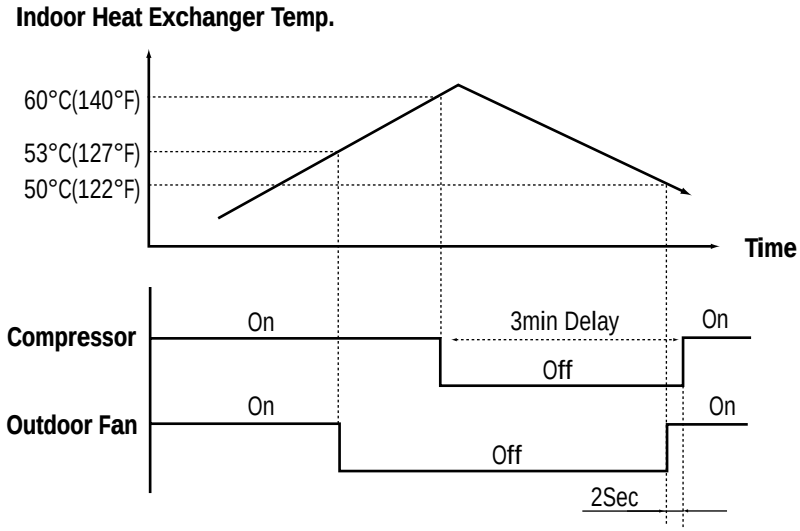
The temperature of indoor heat exchanger	Indoor fan speed
above 20°C(68°F)	UL speed
below 20°C(68°F)	off
after 10 minutes when compressor stops operating	off



2-5-8 Overload protection control

2-5-8(a) At heating mode

- If indoor heat exchanger temp. is over 53°C(127°F), outdoor fan turns off.
- If indoor heat exchanger temp. is over 60°C(140°F), outdoor compressor stops.
- After compressor and fan are off if indoor heat exchanger temp. is over 50°C(122°F), outdoor compressor and outdoor fan operate normally.

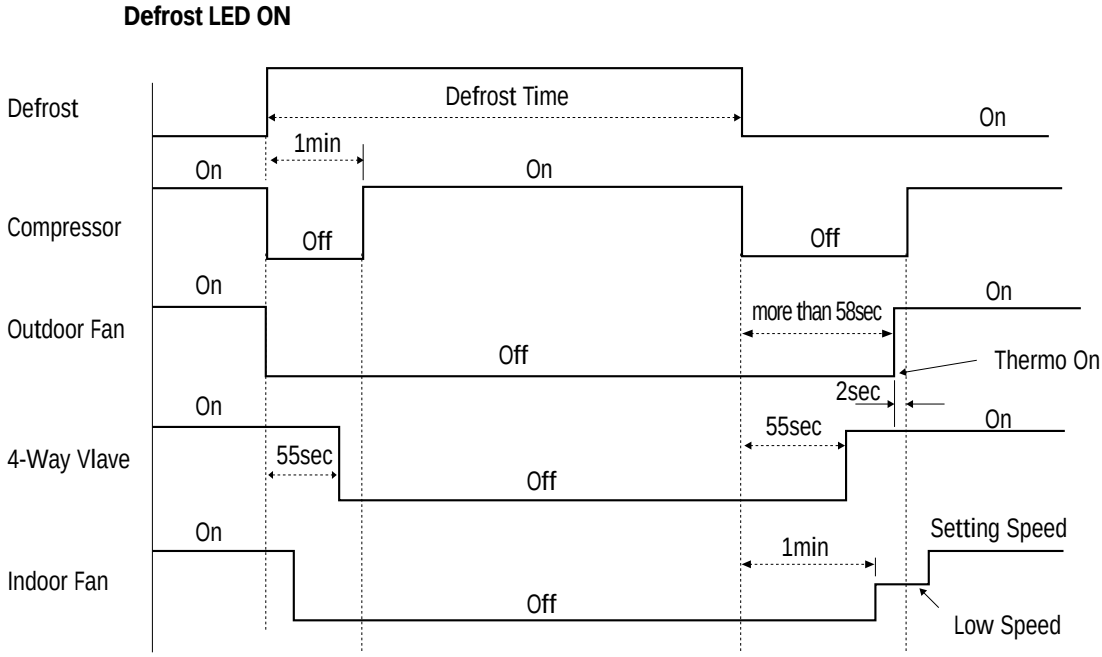


2-5-8(b) At cooling mode

If the temperature of compressor top is above about 130°C(266°F), each Compressor is controlled by its OLP(over load protector) attached on the top of compressor to protect compressor coil from being damaged. The outdoor fan runs continuously regardless of compressor On/Off.

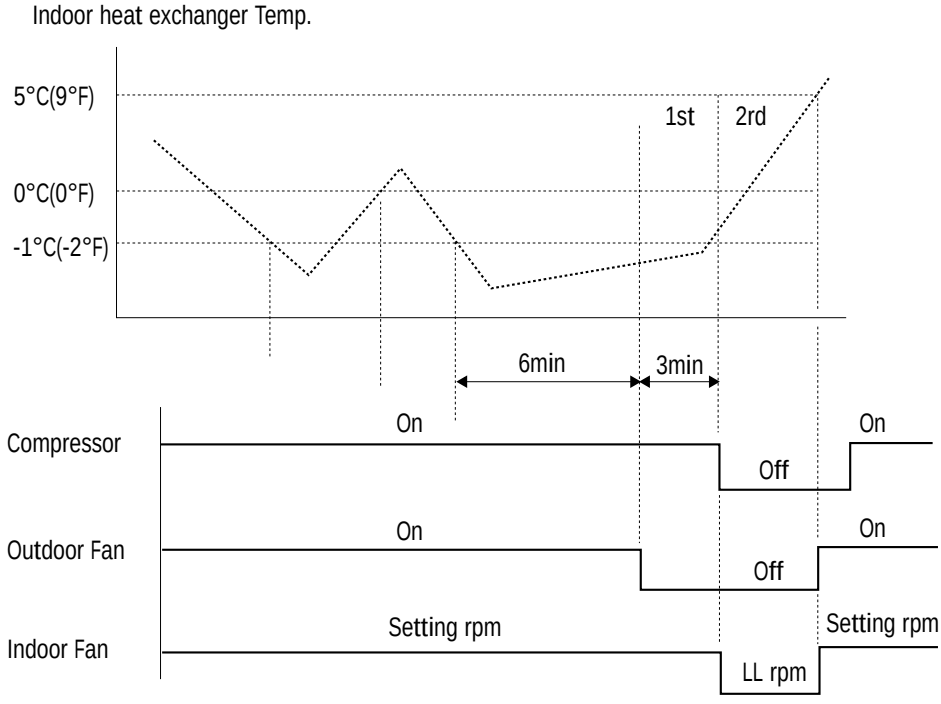
2-5-9 Defrost control

Defrost operation is controlled by sensing the temperature of indoor heat exchanger



2-5-10 Freezing protection control(In the cool mode)

1) First freezing protection
   If the temperature of indoor heat exchanger is belows -1°C(-2°F) for over 6minutes, the outdoor fan turns off.
2) Second freezing protection
   If the temperature of indoor heat exchger does not increse over 5°C(9°F) in 3minutes after First freezing protection, compressor turns off.
3) If the temperature of indoor heat exchanger increase over 5°C(9°F) during the protection function, the freezing protection function is released and compressor operates normally.
4) If the temperature of indoor heat exchanger increase over 0°C(0°F) during 6minutes counter is cleared.
5) Operating Pattern



2-5-11 The others

Time delay safety control
The compressor is stopped for 3minutes to balance the pressure in the refrigeration cycle. (protection of compressor)

MEMO

3

DIAGRAMS

3. DIAGRAMS

3-1 Series V (Cooling only)

3-1-1 Micro computer block diagram ····· 3-1
3-1-2 Wiring diagram (Indoor unit) ····· 3-7
3-1-3 Wiring diagram (Outdoor unit) ····· 3-8

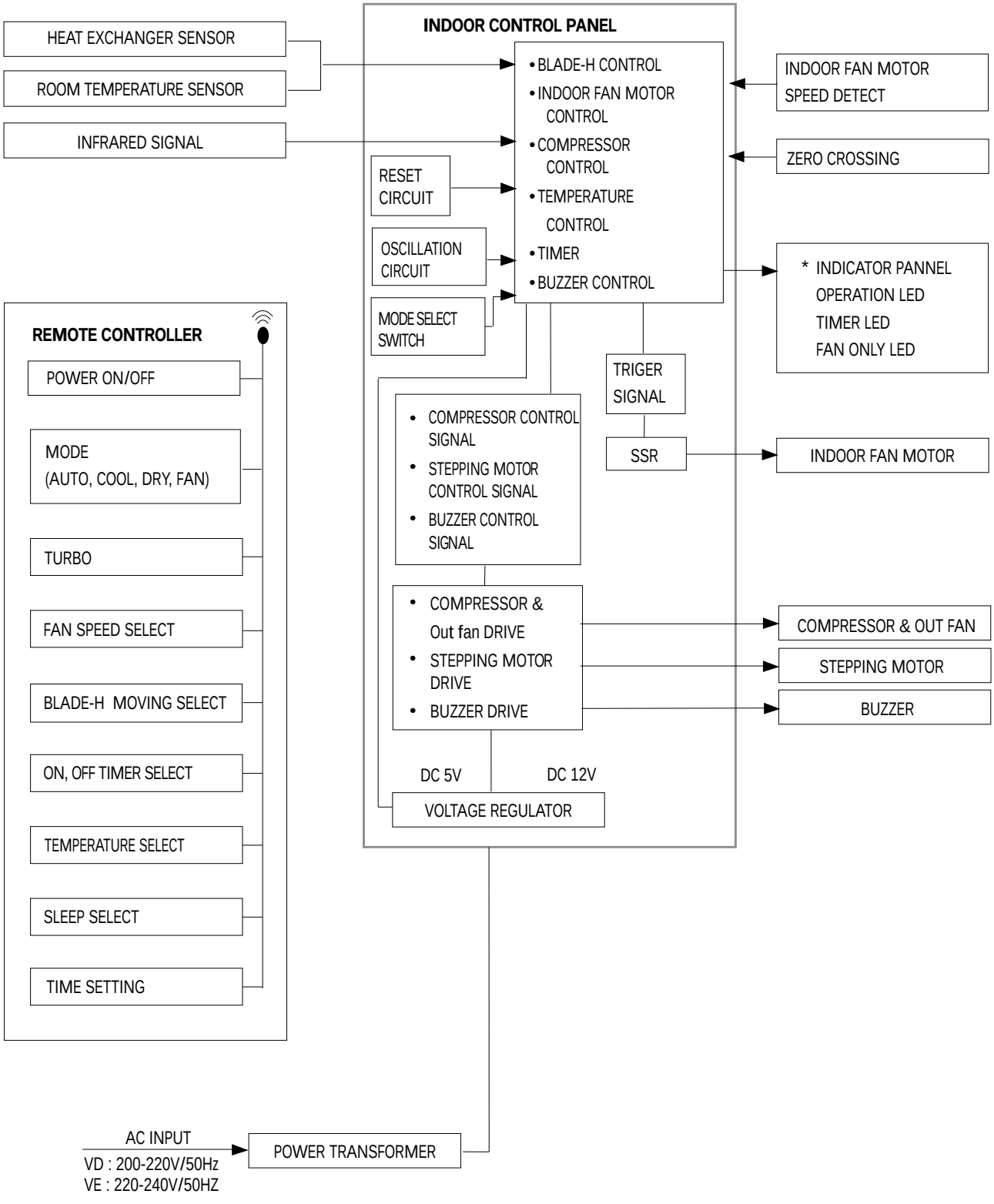
4-2 Series V (Heat Pump)

3-2-1 Micro computer block diagram ····· 3-10
3-2-2 Wiring diagram (Indoor unit) ····· 3-16
3-2-3 Wiring diagram(Outdoor unit) ····· 3-17

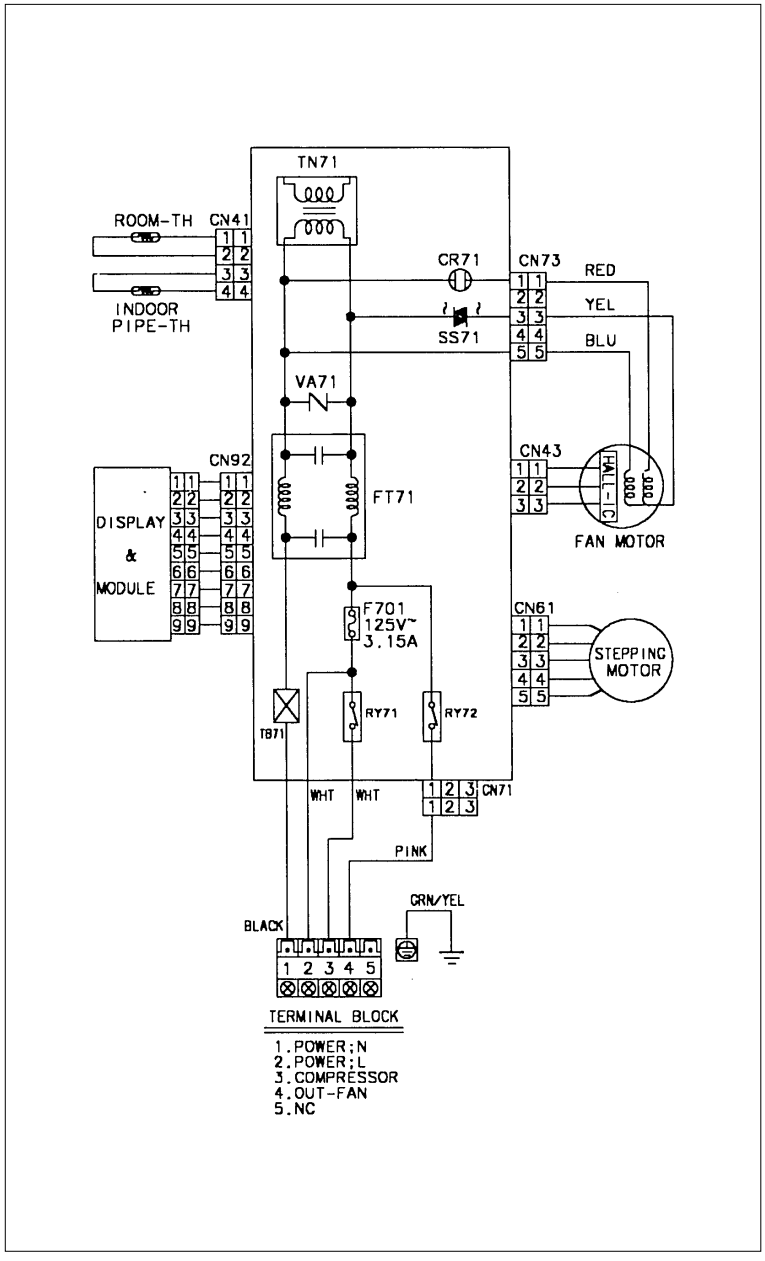
3. DIAGRAMS

3-1 Series V (Cooling only)

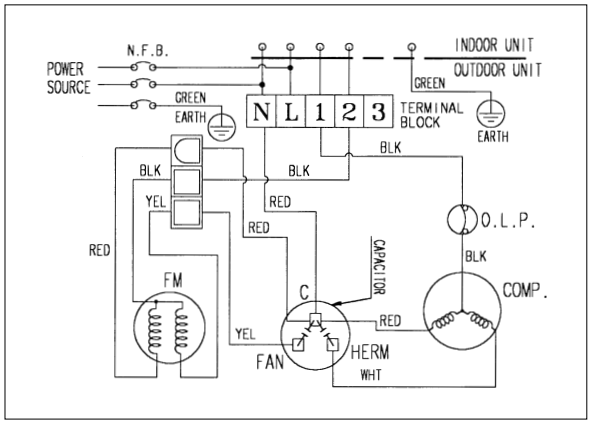
3-1-1 Micro computer block diagram



3-1-2 Wiring diagram (Indoor unit)

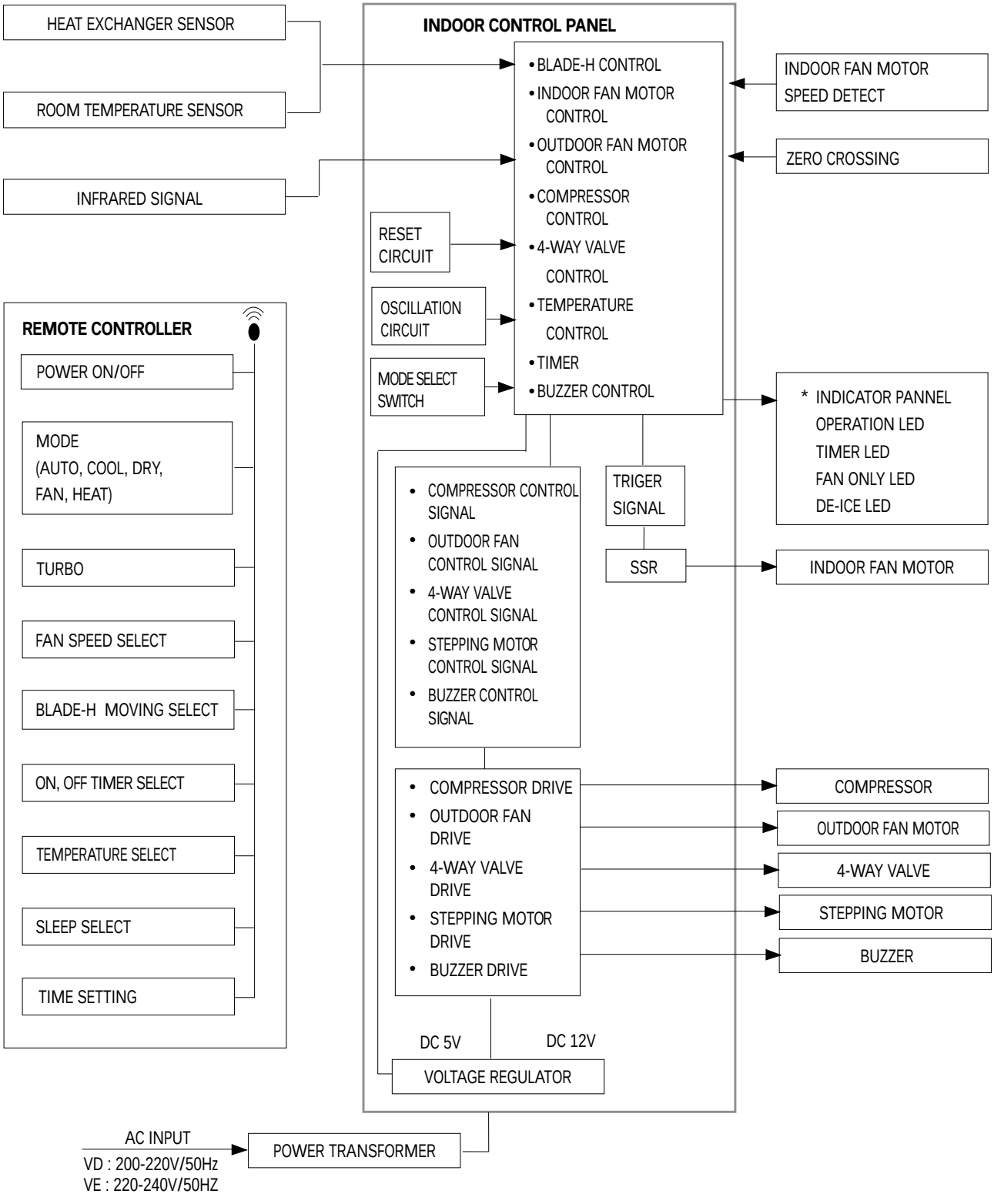


3-1-3 Wiring diagram (Outdoor unit)

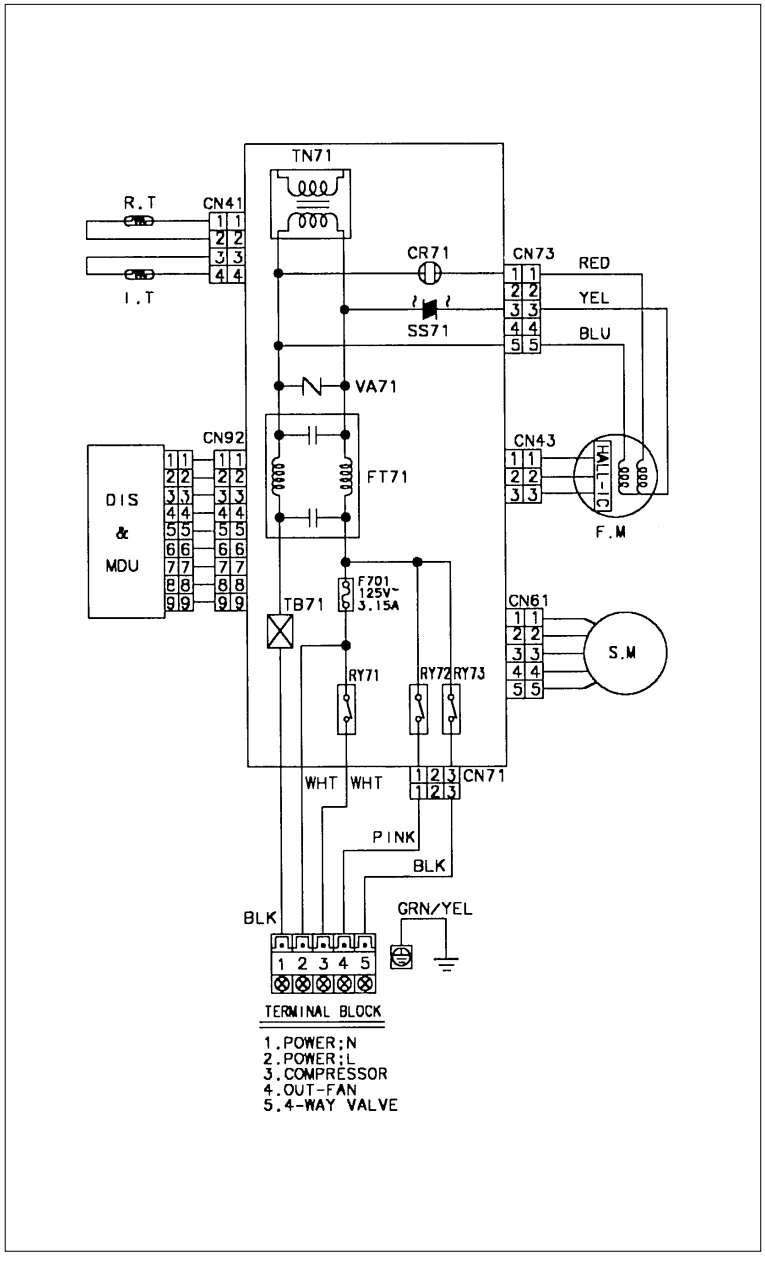


3-2 Series V (Heat Pump)

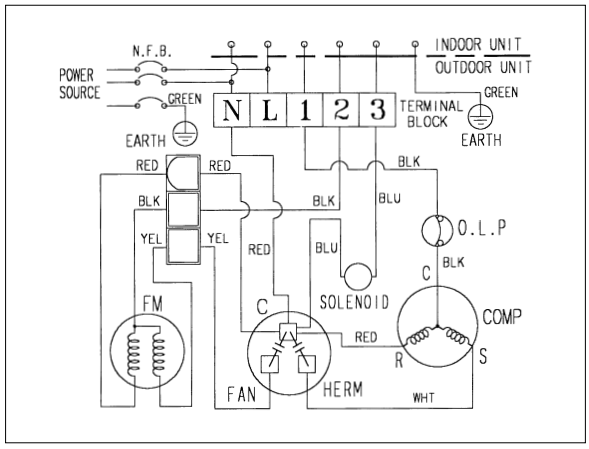
3-2-1 Micro computer block diagram



3-2-2 Wiring diagram (Indoor unit)



3-2-3 Wiring diagram(Outdoor unit)



4

DISASSEMBLE & REASSEMBLE

4. Disassembly & Reassembly

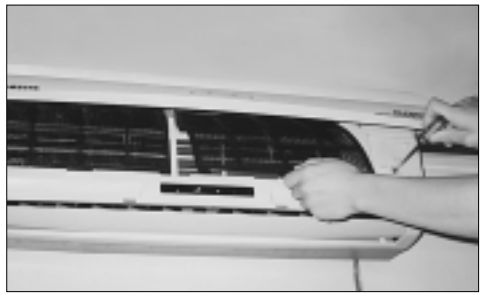
4-1 Serise V

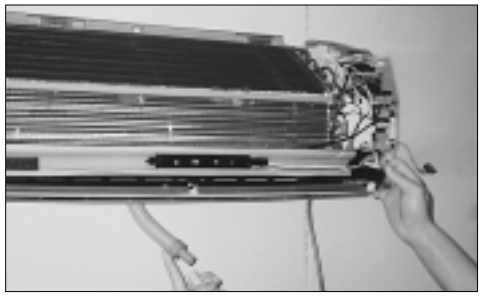
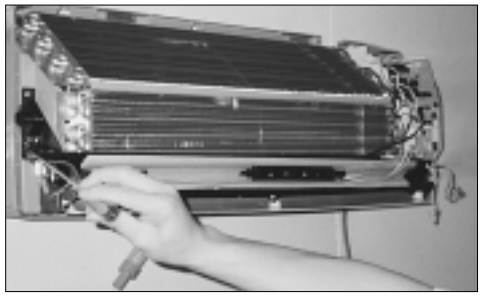
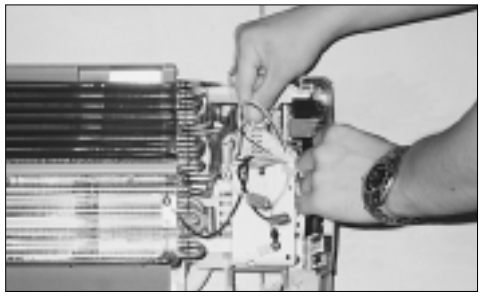
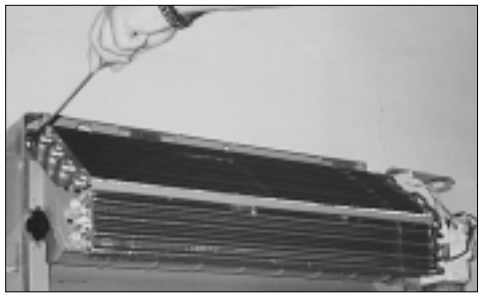
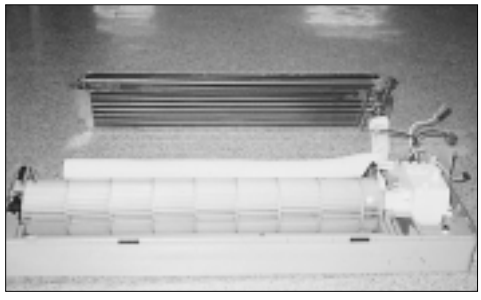
4-1-1 Indoor Unit 4-1
4-1-2 Outdoor Unit 4-4

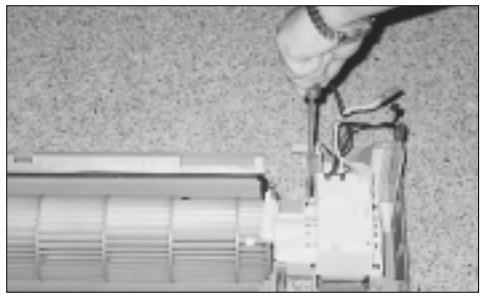
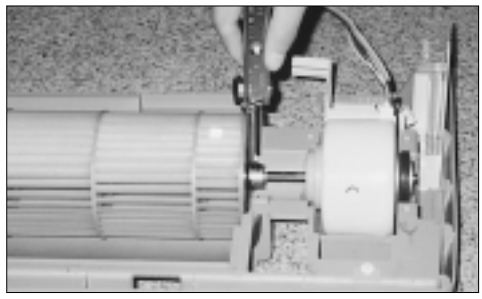
4. Disassembly & Reassembly

4-1 Serise V

4-1-1 Indoor Unit

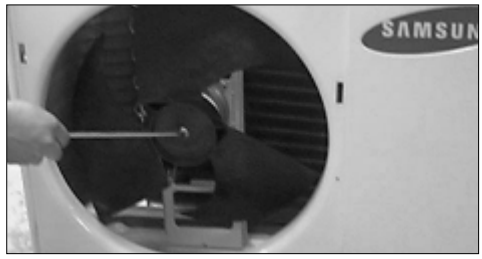
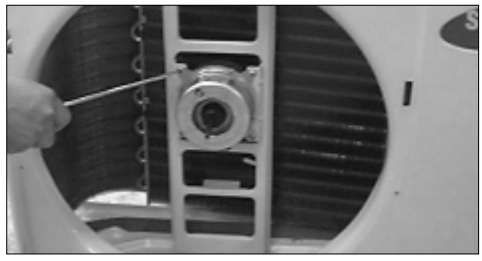
No	Parts	Procedure	Remark
1	Front Grille	1) Stop the air conditioner operation and block the main power. 2) Seperate tape of front panel upper.	
		3) Contract the second finger to the left, and right handle and pull to open the inlet grille. 4) Take the left and right filter out. * Take the Deadorizing and Electrostatic filter out. (ONLY “1” and “5” Series models)	
		5) Loosen one of the right fixing screw and seperate the terminal cover.	
		6) Loosen two fixing screws of front grille.	
		7) Pull the upper left and right of discharge softly for the outside cover to be pulled out.	
		8) Pull softly the lower part of discharge and push it up. **Caution;** Assemble the front panel and fix the hooks of left and right.	

No	Parts	Procedure	Remark
2	Ass'y Tray Drain.	1) Do "1", above. Separate the drain hose from the extension drain hose. 2) Take the display PCB out. (Center of indoor unit) 3) Loosen three fixing screws of left and right 4)Pull tray drain out from the back body.	 
3	Electrical Parts (Main PCB)	1) Do "1", "2", above 2) Take all the connector of PCB upper side out. (Inclusion Power cord) 3) Separate the outdoor unit connection wire from the terminal block. 4) If pulling the Main PCB up. It will be taken out. (Separate the TRANS hook. it before).	
4	Heat Exchanger	1) Do "1" and "2", "3", above 2) Loosen two fixing earth screws of right side. 3) Separate the connection pipe. 4) Separate the bush body at the upper side and holder at the rearside. 5) Loosen the two fixing screws of left side. 6) Lifting the heat exchanger up a little to push the up side for separation from the indoor unit.	 

No	Parts	Procedure	Remark
5	Fan Motor and Cross Fan	1) Do “1” “2” ”3” “4”, above. 2) Loosen the fixing three screws and separate the motor holder. 3) Loosen the fixing screw of fan motor. (By use of M3 wrench) 4) Separate the fan motor from the fan. 5)Separate the fan from the left holder bearing.	 

4-1-2 Outdoor Unit

No	Parts	Procedure	Remark
1	Common Work	1) Loosen the fixing screw and separate the cover E-parts. 2) Separate the connection wire from the terminal block.	
		3) Loosen three fixing screws and separate the upper cabinet.	
		4) Loosen the two fixing screws of Ass'y E-part.	
		5) Loosen seven fixing screws and separate the side cabinet.	

No	Parts	Procedure	Remark
2	Fan and Motor	1) Do “1”, above. 2) Loosen two fixing screw, of the front cabinet. 3) Push the brackets of the outer cover to separate the protection mesh from the rear side of front cabinet.	
		4) Remove the nut flange (Turn to the right to remove, as it is a left hand screw) 5) Separate the fan.	
		6) Loosen four fixing screws to separate the motor.	
3	Heat Exchanger	1) Do “1”, above. 2) Loosen three fixing screws of left and right side. 3) Disassemble the inlet and outlet pipe by welding. 4) Separate the heat exchanger.	
4	Compressor	1) Do “1”, above. 2) Open the terminal cover of compressor and unscrew the connection terminal. 3) Disassemble the inlet and outlet pipe of compressor by welding. 4) Disassemble the inlet and outlet pipe of condenser by welding 5) Loosen the three bolts of the lower part. 6) separate the compressor.	

MEMO

ELECTRONICS

© Samsung Electronics Co., Ltd. APR. 1999.
Printed in Korea.
Code No. DB81-00082A